

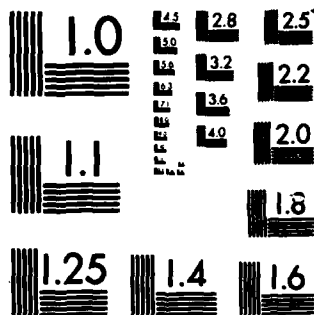
DEFENSE DATA NETWORK/TOPS-20 TUTORIAL AN INTERACTIVE  
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DEFENSE DATA NETWORK/TOPS-20 TUTORIAL  
AN INTERACTIVE COMPUTER PROGRAM

by

Mark Klaue Herman Herkert  
and  
Sheri Lynn Smith

December 1985

Thesis Advisor:

Gary K. Poock

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Defense Data Network/TOPS-20 Tutorial  
an Interactive Computer Program

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Submitted in partial fulfillment of the  
requirements for the degree of

MASTER OF SCIENCE IN SYSTEMS TECHNOLOGY  
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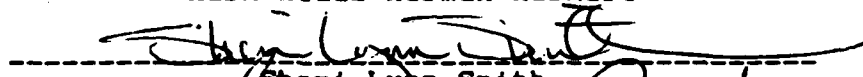
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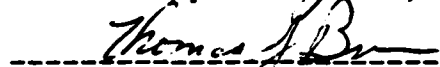
  
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Mark Klaus Herman Herkert

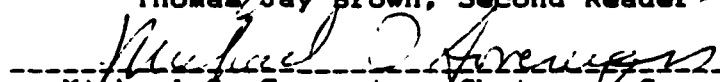
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# ABSTRACT

The DDNTUT program is an interactive tutorial, located on the ISIA host computer in Marina del Rey, California. The program is designed to first acquaint the new user on the Defense Data Network with the TOPS-20 operating system and its executive level commands. Following this, the user is taken step by step through nine different programs available on TOPS-20, knowledge of which is integral to effective use of the network. The user can, at any time, quit the tutorial, return to previously studied at sections, and/or skip sections he may be familiar with.

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## **I. HISTORY OF THE DEFENSE DATA NETWORK**

### **A. INTRODUCTION**

The Defense Data Network (DDN), an approaching world-wide military data communications networking system, was founded by and remains under the aegis of the Defense Communication Agency (DCA) for the Department of Defense (DoD). The DDN is not one, but rather several networks, with a wide variety of compatible hardware and software which allows interoperability and communications. The most commonly used of these networks are the ARPANET (Advanced Research Projects Agency Network), the MILNET (an unclassified operational Military Network) and the MINET (Movement Information Network, which is relatively new.

A look into how these networks and others of a similar nature came into existence must, perforce, start with the development of the concept of "packet switching."

### **B. PACKET SWITCHING**

Packet switching is a means of handling data being transmitted through the various communication channels or linkages within a network. The theory is simple: local Interface Message Processors (IMPs) break up or subdivide the messages, files, programs, etc., being transmitted, into smaller "packets" which are then treated as individual



messages, all labeled and sequentially ordered as part of the larger message. Located throughout the network are "switching nodes", which receive each packet and check for and correct any errors or glitches which may have occurred during transmission. The node will then either collect and order all of the separate packets of a message before forwarding the completed whole to the intended recipient, or will simply forward each individual packet on as it is received and corrected. (See Figure 1.1.)

Packet switching is highly cost effective: switching nodes are completely automated, as well as reliable and inexpensive. Easy to install and keep up, there are now over a hundred of them scattered across the USA, and spreading rapidly throughout Europe and the Far East. Encryption of the system to permit vastly increased classified material handling capability has been budgeted for and is more slowly being incorporated throughout the system, with full online capabilities expected by the late 1980s.

### C. ARPANET

The first of the packet switching networks was developed under a 1969 program run by the Defense Advanced Research Project Agency (DARPA). The experimental network thus conceived and put into operation was dubbed ARPANET. The network became a major success in the rapid, reliable,

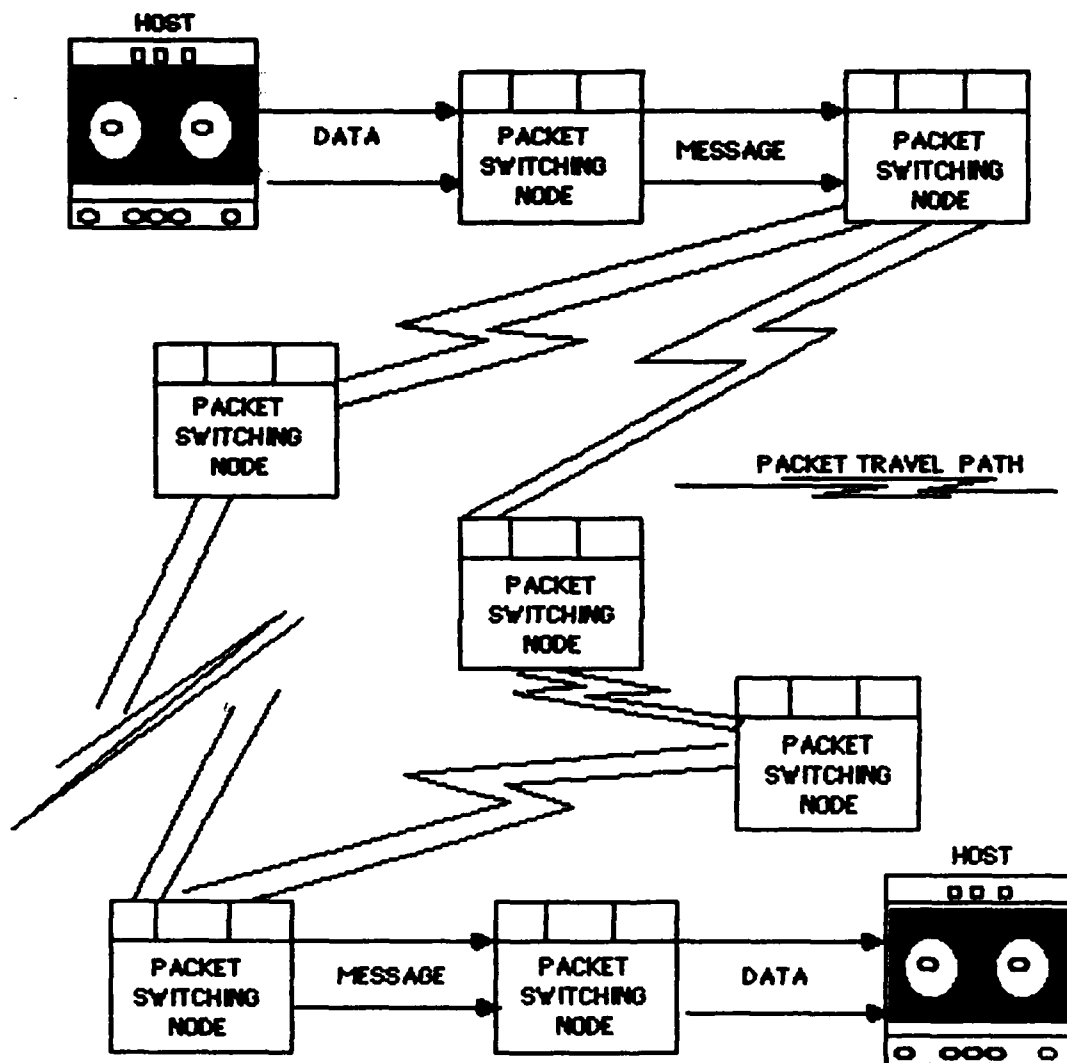


Figure 1.1

and inexpensive sharing of data, ideas, theories, resources, and software. By 1975, a considerable number of operational users as well as researchers and experimenters had been authorized access to the net, and control of the asset was shifted to the Defense Communication Agency. Both military and civilian research projects are supported by ARPANET. The knowledge and experience, tools and services developed over the years have formed the basis for most if not all packet switching networks, both commercial and military, currently under development or in use today.

#### D. AUTODIN II

A DoD study initiated in 1974 predicted such imminent major advances and increases in the use of computer technology by the military services that a decision was made to develop a packet switching network dedicated to and internal to the DoD itself. This network was to have the full heterogeneous hardware and software capabilities already found in ARPANET, and was, additionally, to have the added features of standard military message precedence handling and encrypted transmission for classified material.

In 1976, the contract for this new network was awarded to Western Union and given the name AUTODIN II. (AUTODIN I is the Western Union message switching network currently leased by the government since the early 1960's). Between 1976 and 1982, however, improvements in technology and

increased cost consciousness on the part of the government, coupled with an added emphasis on redundancy and survivability, resulted in the government terminating the AUTODIN II contract and the subsequent development of the DDN under the DCA.

#### E. FORMATION OF THE DDN

DoD, in 1979, began interconnecting a number of its isolated computer networks through internet protocols resulting in a series of node computers linked by high-speed telephone lines. This was to become the "backbone" of the DDN. By 1983 ARPANET had grown to include over 300 computers, and was woefully inadequate in its ability to accommodate the increasing numbers of military would-be ARPANET users. Thus, in September 1984, ARPANET was officially divided into two separate unclassified networks, with military research and development remaining under the ARPANET heading, and control reverting to DARPA, while operational military communication uses were directed to the newly designated MILNET, which remained under DCA control. Electronic mail can still be sent between the two networks, but, as security safeguards are added to the MILNET, traffic will increasingly be limited and controlled by so-called "gateways".

## II. AN OVERVIEW OF THE DEFENSE DATA NETWORK

### A. INTRODUCTION

The DDN is envisioned as a worldwide unified packet switching network dedicated to meeting the data communication requirements of the DoD. The network is subdivided into two functional areas: (1) the network backbone, comprising the trunk circuits and switching nodes, and (2) the access network, comprising local circuits and interfacing equipment allowing individual authorized users to connect to the backbone. TOPS-20 is one of several timesharing operating system in current usage on the DDN. Additional information on TOPS-20 can be found in the <DOCUMENTATION> directory, as noted in the tutorial.

### B. THE BACKBONE

The DDN backbone (IMPs and TACs) will eventually consist of some 200 nodes located at some 100 sites. Again, as mentioned earlier, redundancy and survivability are of key interest to DoD. Most of the transmission trunks will be via leased landline circuits, although some satellite transoceanic links are already in operation. (See Figure 2.1.)

### C. THE ACCESS NETWORK

Individual user terminals normally access the DDN via a host computer, which is in turn connected to the

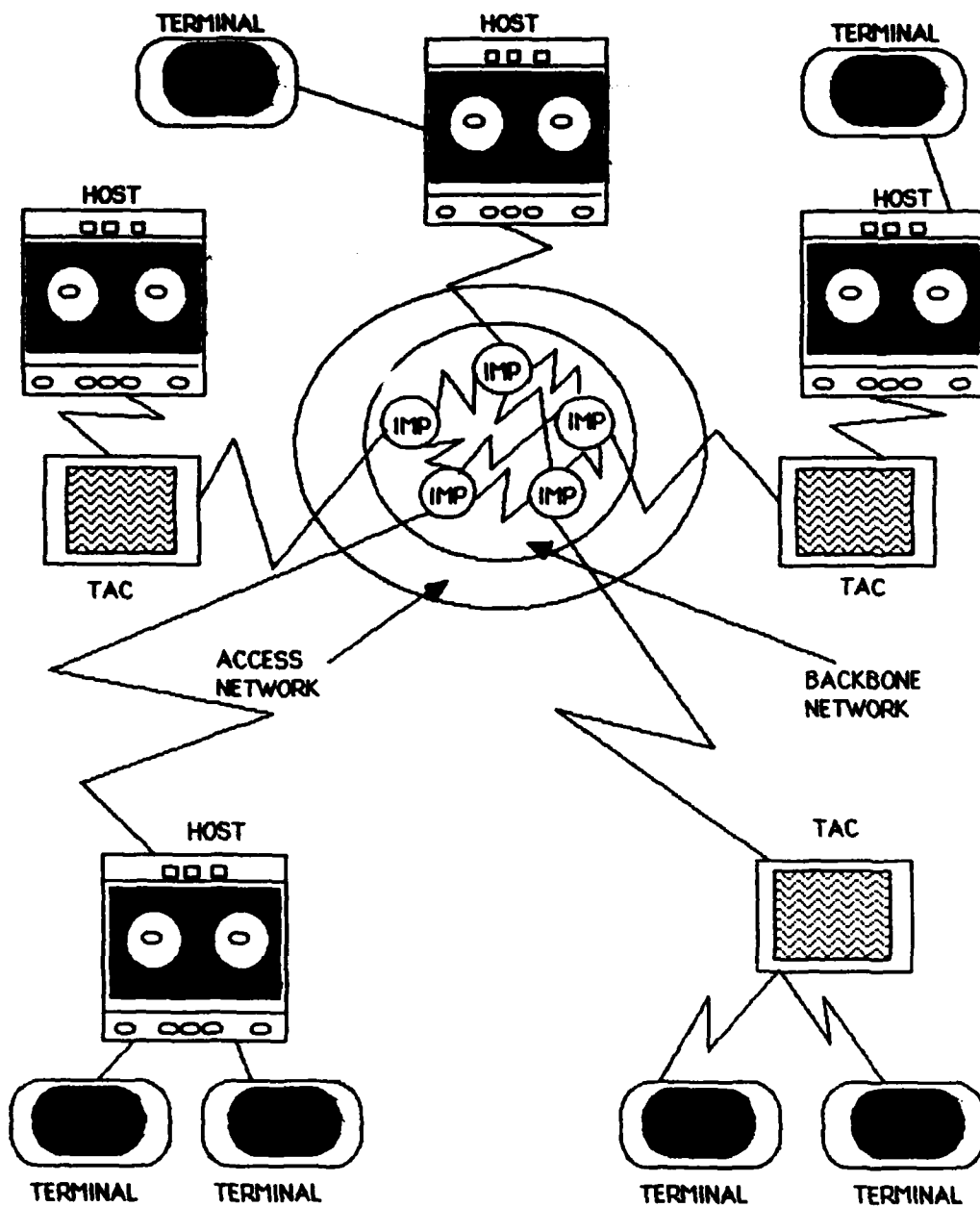


Figure 2.1

aforementioned IMP. It is also possible, however, to connect a hardwired or dial-up terminal to the DDN via a Terminal Access Controller (TAC). (See Figure 2.2.)

Each host computer has a hostname and address as its primary means of identification. Additionally, each network has a network address associated with it. While hostnames (usually mnemonic acronyms) are all that is necessary for sending electronic mail around the net, should you access the net via a TAC, you must use the equivalent numerical host address instead.

Examples of hostnames and addresses are:

Host address	Host name	Location	Network type
24.1.0.7	MINET-LON-TAC	DCA London	MINET
26.3.0.16	AMES-VMSB	NASA, Moffet Fld, CA	MILNET
10.0.0.15	ROCHESTER	UNIV of Rochester, NY	ARPANET

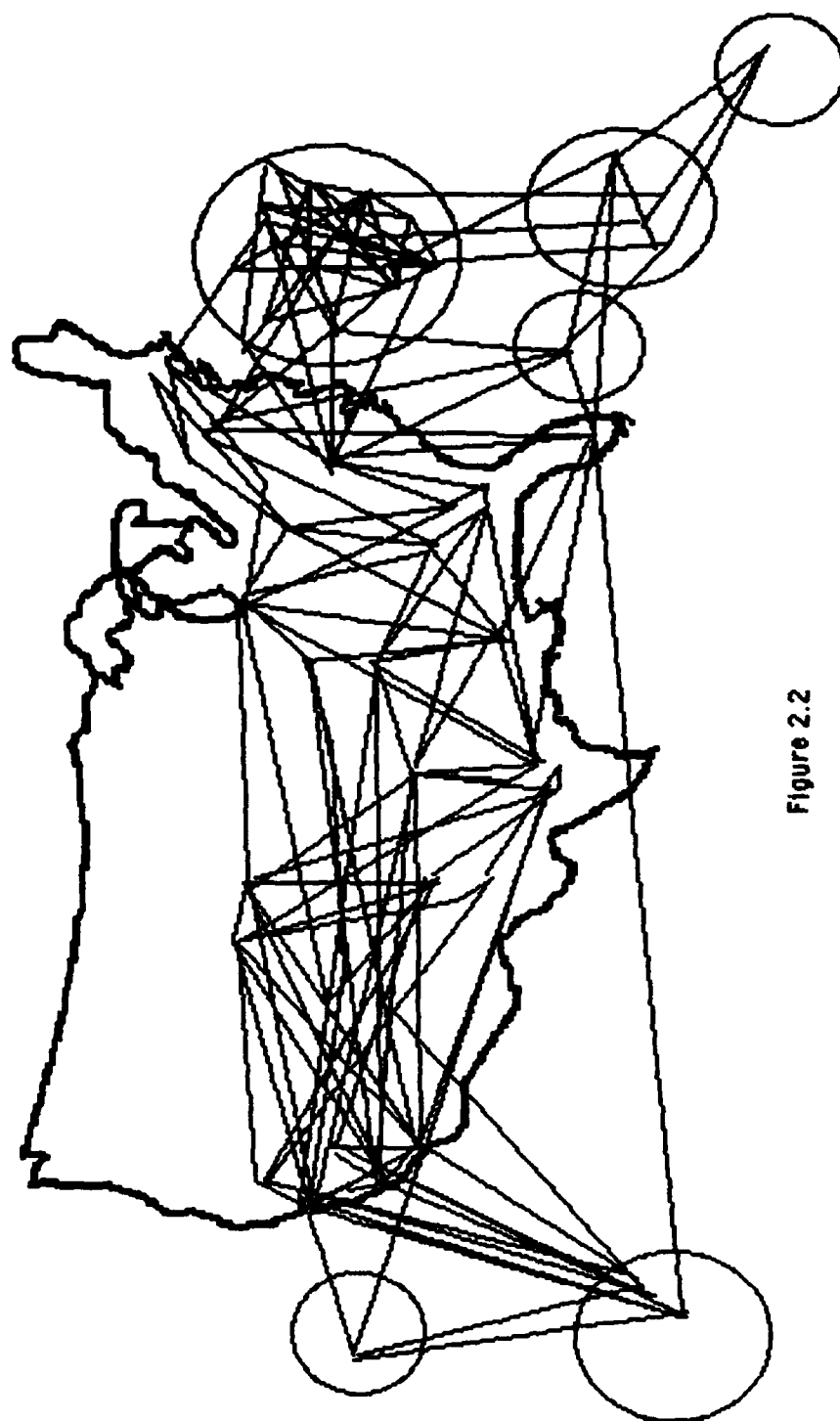


Figure 2.2



**APPENDIX A**

**USER'S GUIDE**

**TO THE**

**DEFENSE DATA NETWORK/TOPS-20 TUTORIAL**

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## USER'S GUIDE TO THE DDN/TOPS-20 TUTORIAL

This User's Guide to the Defense Data Network/TOPS-20 Interactive Tutorial presupposes that the user has worked or is working through the DDNTUT.FOR program. Access to the program is gained by entering the following at the "@" prompt:

EXECUTE <DECAIDS> DDNTUT.FOR

Compilation of the program, if required, will occur automatically. Once the program has been loaded by the system, you will see the opening line "WELCOME TO THE DDN", and you are off and running.

This guide is intended to serve strictly as a reference manual for users of the tutorial. It provides short descriptions of the Executive Level commands and the nine system level programs the user encounters while working through the tutorial.

Examples are not provided herein, as that is the purpose of the tutorial itself. Should the user remain uncertain regarding the correct procedure to follow in utilizing a system program, he/she is encouraged to refer to the tutorial.

At the end of this Guide is a recap of the "Where To Go From Here" portion of the tutorial. Users who wish to increase their knowledge of the TOPS-20 operating system and/or the Defense Data Network are urged to utilize these sources.

NOTE: Filename, Filetype, and Generation Number are abbreviated: FN.FT.NU respectively throughout this User's Guide and the tutorial.

## EXECUTIVE LEVEL COMMANDS

The Executive Level (EXEC) of the TOPS-20 operating system is entered after you log on or after execution of system routines, and is noted by the display of the "@" prompt. Commands here fall into three categories:

1. Cursor Commands
2. Directory-Related Commands
3. System-Related Commands

### Notes:

1. The " ^ " character refers to the control (CTRL) key.
2. ESC refers to the escape key.
3. <CR> refers to the carriage return or enter key.
4. DEL refers to the delete key.

## CURSOR COMMANDS

KEY	USE(S)
ESC	Completes a command or Filename once you have typed enough for the system to recognize your intentions are.
CTRL	Used with another key to enter a command; must be held down while the other key is typed.
^C	Used to abort a partially completed command or to stop printing something you don't want to see. Will return you to the EXEC level if you are not already there.
^T	Used to show that the system is still running.
^S	Freezes typeout on the screen and acts as a no-scroll key.
^Q	Resumes typeout on screen after use of ^T command.

@ Prompt for the EXEC level. Must be typed twice to enter it into text while in XED and most other programs if accessing your host through a TAC.

DEL Deletes characters from right to left.

^O Stops terminal output.

^W Deletes words from right to left.

^Z End-of-file. Used whenever you have finished entering data, text, messages, etc.

<CR> Carriage return. Confirms a given command and permits execution of the command.

#### DIRECTORY-RELATED COMMANDS

A complete listing of these commands can be seen by typing "?" after the "@" prompt. The following is a listing of those most often used:

COMMAND	USE(S)
DIRECTORY	Or "DIR<CR>"; lists the names of all your files.
TYPE	Types the contents of a file.
APPEND	Appends one file to the end of another.
ARCHIVE	Places a file in off-line storage.
DELETE	Deletes a file from your directory.
UNDELETE	Restores DELETED files back to your directory, unless you have expunged or logged off or sometimes if the system crashes.
EXPUNGE	Permanently erases all DELETED files.
SET DIR PASS	Allows you to change your password.
PROTECTION	A six digit number which restricts access to any file in your directory. 775200 is the default. For more info, type HELP PROTECTION at the EXEC level.

## SYSTEM-RELATED COMMANDS

COMMAND	USE(S)
SYSTAT	Used to see everyone on a host. To see if a particular user is up on the host, type SY <USERNAME> <CR>. The system will respond with a job number, etc., if the user is on the host or with just a "@" if the user is not up.
FINGER	Used to find out information about a specific user and is invoked by typing FINGER <USER-NAME> <CR> at the EXEC prompt.
ATTACH	Attaches a job to your current job.
TER NO RAISE	Makes your terminal accept both upper and lower case letters.
INFO MAIL	Asks system check for new messages.
INFO DISK	Lists information about your current page allocation.
TALK TO < >	Creates a communication link with another specified user, if on-line. If you are LINKed to, remember to type a ^C to place a hold on whatever it is you were doing before responding to the LINK. Use the symbol ; or ! to preface each line of type.
BREAK	Either individual LINKed can type this to terminate the link.
CONTINUE	Restores a user, following a LINK, to the place where a ^C was typed.
REFUSE	Type this in your LOGIN.CMD file if you do not wish to be interrupted by anyone LINKing to you.
RECEIVE	Type this in your LOGIN.CMD file if you don't mind being interrupted (receive is also the default).

## MSG

MSG is a program which allows the user to create, send, file and read messages, referred to also as mail. A listing below provides the commands which may be used within MSG. They may also be seen from within MSG by typing a "?" after the MSG prompt, which appears as "<--". To enter MSG, type MSG at the EXEC prompt.

### MSG COMMAND LEVEL COMMANDS

COMMAND	USE(S)
---------	--------

A	Answer a message
B	Back up to previous message (also ^ or ^H)
C	Current message
D	Delete a message
E	Exit and update message file
F	Forward a message
G	Go to message number < >
H	Headers (HA: Headers ALL)
I	Inclusion of length of header
J	Jump into lower fork
K	Koncise - provide shorter prompting
L	List of messages
M	Move message into a file (deletes it as a message)
N	Next message number
O	Overwrite old file
P	Put a message into a file (does not delete it as a message)
Q	Quit, return to EXEC level without update of MSG file
R	Read in a file (specified)
S	Send a message
U	Undelete a message
V	Verbose - provides more prompting
W	Write file sorted by message arrival time
X	XED - enter XED
Z	Zap profile
'	Marks message as examined
-	Marks message as not examined



:	Display current time and date
?	Type with the command character for its description, alone for summary of commands available
;	Comment
^N	Abort message
^Z	Message completion

#### COMMANDS WITHIN MESSAGE SEQUENCE

If you ask the system to type out a message (T - type) or output headers (H - headers), etc., the system will ask you for the message sequence. Usually, all you desire is one message, so you just type that message number followed by a carriage return. If you desire to have several messages printed you may use the following:

10:15	Prints messages 10 through 15
>15	Prints all message numbers greater than 15
6:3	Prints, in reverse order, messages 6 through 3
24,7	Prints message 24, then message 7

Other ways of responding to the message sequence request from the system are:

ESC	Current message
^I	Last sequence specified
A	All message or headers
D	Deleted messages or headers (prior to EX-PUNGE or EXIT)
E	Examined messages
F	String search of headers
I	Inverse order
L	Last message sequence
N	Not examined messages
O	Old messages/headers
R	Recent messages only
S	String search of subject
U	Undeleted messages

## XED

XED is a text editor; specifically a line editor. It allows you to both create and edit text, one line at a time. Entry into XED is by typing XED at the EXEC prompt. Some helpful definitions are:

- Text Buffer - Your current working space
- Print Buffer - Area where KILLED material is sent
- Command Level - Level you are at when entering XED, distinguished by the ":" prompt
- Line Number - Assigned by XED to each line in your text buffer; for your reference only, not stored in the file

### XED COMMAND LEVEL COMMANDS

#### COMMAND USE(S)

A	APPEND, used to enter text after the current line
B	BACK UP, used to create a back up file
C	CHANGE, to modify current line(s)
E	EXIT, to leave XED, after a file save
F	FIND, to locate a specific letter, word or phrase in text
G	GROUP, to join current line with following line
I	INSERT, used to enter text before current line
J	JAM, puts contents of print buffer after current line
K	KILL, places current or specified line(s) into print buffer
L	LIST, Outputs entire text buffer without line numbers
P	PRINT BUFFER or DUMP, prints contents of print buffer
Q	QUIT, leaves XED prior to file save
R	READ, puts into XED the contents of specified file
S	SEARCH, like FIND, but locates all occurrences
T	TYPE, prints current line
V	VIEW, prints current and following 15 lines
W	WRITE, prints contents of text buffer to a file
X	EXCHANGE, used to search for and replace text
Z	ZAP, puts your entire file into the print buffer

' ' SWITCH DUMP, swaps contents of the print and text  
 buffers  
 , TYPE CONTEXT, types current line and five lines  
 before and after  
 / TYPE, types current line  
 x SENDMSG, uses current text buffer as body of a  
 message  
 \$ LAST LINE, places you at end of file  
 ? Displays available commands  
 ^J TYPEs the next line  
 ^Q ABORTs partially completed commands  
 \_ FORMAT, right justifies a paragraph

#### COMMANDS WITHIN INSERT AND APPEND

COMMAND	USE(S)
DEL KEY	Deletes letter to left of cursor
^R	RETYPEs current line, leaving cursor at end
^X	KILLs LINE to left of cursor
^W	DELETEs WORD to left of cursor
^Z	RETURNs you to the command level

## FILE TRANSFER PROTOCOL (FTP)

FTP is a program employed to transfer files around the net. This can be done from within a host or between hosts. It does necessitate that you have access to a directory on each host...the directory which has the material you desire and the directory to which you wish the material transferred. The following prompts are unique to FTP:

FTP>	FTP command level prompt
USC-ISIE.ARPA>	Sample foreign host command level prompt

### FTP COMMAND LEVEL COMMANDS

COMMAND	USE(S)
FTP	Invokes the FTP protocol
CONNECT	Connects you from the local host you are logged onto, to the foreign host you are attempting to reach
SEND	Sends a file from your local directory to the foreign directory
GET	Retrieves a file from the foreign directory to your local directory
BYE	Disconnects you from the foreign host
DISCONNECT	Same as BYE
QUIT	Leaves FTP
EXIT	Same as QUIT

## TELNET (TN)

TN is a program which allows a user on one host to access another host. It actually appears as though you are logged into the foreign host directly from a TAC rather than through your local host. The program also has the advantage of making your control characters do what you expect them to do, even if the control characters on the foreign host are different.

Using TN is actually quite simple. All you need do is type "TN", followed by the foreign host name, after the EXEC prompt. If a pathway to the foreign host is available and the host is up and running, you will connect to the foreign host ready to log into a directory. The standard "@" EXEC prompt will be displayed. Everything from then on is the same as logging into your own directory. When you are finished, simply log out of the foreign directory, and you're back in your own directory at your local host.

Note: If you access the foreign host by using the TN command, and then enter <HOSTNAME> <CR> at the TN> prompt, when you LOGOut of the foreign directory, you will be returned to the TN> prompt. Simply type EXIT <CR> and you'll be back home.

One additional idiosyncrasy of TN is, since all control characters are meant to behave on the foreign host as they would on the local host, you cannot use "^C" to return to

your own EXEC level. There is a way around this, however.  
You simply type "^^C". The proper method of quitting TN,  
however, is to LOGOut of the foreign host.

## PHOTO

PHOTO is a program which allows you to record, or save, portions of a session on the net. It is invoked by typing "PHOTO <CR>" at the EXEC prompt. You will then be asked to supply a filename to which the PHOTO session is to be recorded. PHOTO will record what you type, as well as the responses from the computer. While you are in PHOTO, everything will work as normal. The control characters remain as before, and you still get the same prompts. What this means is, you cannot use ^C to exit from PHOTO. The normal means of exiting PHOTO is to type the command "POP <CR>" at any EXEC prompt.

There is one control character peculiar to PHOTO: "^Y" is used to suspend the PHOTO session. When you are ready to continue recording, simply input another ^Y.

If you check your directory after POPing out of PHOTO, you will see the new file. You can use the TYPE command or enter XED, READ in the file, and view it. While you are in XED, you can also edit the file.

While you are in PHOTO, the system beeps at you periodically to remind you that you are recording the session. The periodicity of the beeps is set at 30 seconds by default; you may change this, or eliminate them entirely through use of the following command:

@PHOTO/INTERVAL:0      Cancels the beeps  
@PHOTO/INTERVAL:60      Gives beeps every 60 seconds, or  
                             whatever interval you prefer

And finally, a reminder that you must POP out of PHOTO  
before the system will allow you to log out.



## REMIND

REMIND is a program which allows you to create reminders for yourself or others to be sent by the system at a later time, as specified by you. You may schedule a reminder to be sent only once, or as frequently as you like. You may also select whether the reminder will be MAILED (delivered via normal message service), SENT (delivered directly to addressee's screen, however, if the addressee is not logged on, the message is lost forever) or by BOTH methods (recommended).

To use the REMIND program, type "REMIND <CR>" at the EXEC prompt. Use the CREATE command to initiate a reminder message. A variety of prompts will be provided such as who the message is to be sent to, when, how often, how sent, etc. All of these prompts are fairly self-explanatory, but if you get stuck, simply type a question mark.

REMIND is the fastest way to send a message, as it doesn't force you to read the headers of any unlooked-at messages, etc., as with the MSG program.

### REMIND COMMAND LEVEL COMMANDS

COMMAND	USE(S)
CREATE	Used to CREATE a message
DAYTIME	Prints the exact date and EST time
DELETE	DELETes remind messages
EXIT	EXITs out of REMIND

HEADERS	Lists subject line of all your REMIND messages
HELP	Gives info about all options; or a specific command
MODIFY	Changes the parameters (ex: time msg to be sent)
QUIT	Same as EXIT
SURVEY	Lists all recent remind messages you have sent
TYPE	TYPEs a remind message already looked at
UNDELETE	UNDELETEs remind messages

## INQUIR

INQUIR allows you to enter information into a file which can be read by yourself or others using the "FINGER / VERBOSE <USERNAME> command. INQUIRE is entered by typing "INQUIR <CR>" after the EXEC prompt, following which you type the command "MODIFY <USERNAME> <CR>" where username is your own directory name. The system now will be at its entry level, and will either respond with a >> prompt, if data is already in your file, or with questions if there is no information in the file or in a specific field in the file.

While you are building or modifying an INQUIR file, the normal XED editing commands (DEL key, ^R, ^W, etc.) may be used. ^Z will signal the system that you have completed the file. The REMARKS section of the file allows you to leave short messages for people INQUIRIng about you.

When you are at a >> prompt, there are a few commands available which can be useful:

COMMAND	USE(S)
ALL	Allows you to review/change the entire data base.
<FIELD NAME>	Allows you to change a specific field
SHOW	Shows you the entire data base as it would appear with a FINGER/VERBOSE command
EXIT	Exits to the > prompt from the >>, or to @ from >.

## FINGER

FINGER is a program to help locate and identify users on a system. It is called from the EXEC Level by typing "FINGER <CR>". Its main features are personal name and line location output. If you leave a message, called a "plan", in a FINGER.PLAN file, it will print out when someone FINGERs you and you are not logged on. This file is a free-form text file created in XED, and the file protection (SET PROTECTION command) should be at least 775252 to allow all other users to read it.

Calling sequences for FINGER include:

1. @FINGER <USERNAME>  
Prints whatever message user has in their .PLAN file; tells you if user is logged on.
2. @FINGER / <SWITCHES> <USERNAME> OR  
@FINGER <USERNAME> / <SWITCHES>  
If username is blank, all users at a switch will be summarized alphabetically. If username specified, info about that particular user on that switch is printed in more detailed fashion.
3. OTHER SEQUENCES:  

/DETACHED	Displays detached jobs
/DIAL-IN	Displays dial-in jobs only
/HELP	Show this message
/NO-DETACHED	Suppress display of detached jobs
/NO-OPERATOR	Suppress display of operator jobs
/OPERATOR	Display operator jobs only
/TERSE	Output line job status only
/VERBOSE	Output plan and mail info, plus INQUIRE database, not including account. <USERNAME> must be specified.
/WHOIS	Useful for remote users; displays site dependent info about a specific user.

## ELECTRONIC MAIL HOST (EMH)

An Electronic Mail Host, or EMH, is a special kind of host. The only capability an EMH has is sending and receiving messages. To use an EMH, you must be authorized access, and have a directory name and one or two passwords, as required. The passwords change frequently to prevent idle chitchat, user abuse, and large, inexplicable bills.

To access an EMH host, use the TN command. When the connection is established, log on and give passwords just as if you were logging into any directory. There are a number of command options in EMH useful in creating and sending messages, reading, deleting, and filing other messages, etc. They are largely self-explanatory, and bear a strong resemblance to the commands previously discussed for MSG, REMIND, and other programs found on the system. Remember to use a ? if you get stuck.

The following are some unique EMH commands:

COMMAND	USE(S)
COMPOSE	Used to create a message.
REPLY	Used to reply to a message.
.<CR>	Used to end a message when entered alone on a separate line.

## EMACS

The EMACS text editor portion of the tutorial has not yet been written.

## GRAPH

The GRAPH or graphics portion of the tutorial has not yet been written.

## WHERE TO GO FROM HERE

The following materials serve as excellent sources of information on the TOPS-20 operating systems and sub-systems, including:

HELP, ?, ACTION, DOCUMENTATION, FTP, TN, FINGER, MM, HERMES, XED, EMACS, REMIND, PHOTO, WHOIS, ARCHIVE AND SCRIBE.

USER'S GUIDE TO TOPS-20  
WAYNE TURNER  
SEPT 1983 & APRIL 1984  
USC INFORMATION SCIENCE INSTITUTE  
4676 ADMIRALTY WAY  
MARINA DEL REY, CALIFORNIA 90291  
(213) 822-1511 EXT 289  
ACTION @ USC-ISI.ARPA

TOPS-20,  
CHLOE SOMMERS HOLG  
AUGUST 1983  
USC INFORMATION SCIENCE INSTITUTE  
4676 ADMIRALTY WAY  
MARINA DEL REY, CA 90291  
(213) 822-1511 EXT 289  
ACTION @ USC-ISI.ARPA

PROFESSOR GARY POOCK  
CODE 55PK  
NAVAL POSTGRADUATE SCHOOL  
MONTEREY, CA 93943  
POOCK@USC-ISI.ARPA

The following are informative sources on the creation of the Defense Data Network, where it's at today and where it's going:

DDN NEW USER GUIDE (NIC 50001)  
MARCH 1985  
DDN NETWORK INFORMATION CENTER  
DDN PROGRAM MANAGEMENT OFFICE  
DEFENSE COMMUNICATION AGENCY  
WASHINGTON, D.C.  
(703) 285-5025

Useful addresses:

BOLT, BERANEK AND NEWMAN INC.  
50 MOULTON STREET  
CAMBRIDGE, MASSACHUSETTS 02238

COMPUTING ANALYSIS CORPORATION  
1400 WILSON BLVD, SUITE 1101  
ARLINGTON, VA 22209

DIGITAL EQUIPMENT CORPORATION  
PO BOX CS-2008  
NASUA, NEW HAMPSHIRE 03061

DOCUMENT DISTRIBUTION,  
USC INFORMATION SCIENCES INSTITUTE  
4676 ADMIRALTY WAY, SUITE 1100  
MARIA DEL REY, CALIFORNIA 90291

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
ARTIFICIAL INTELLIGENCE LABORATORY  
ATTN: PUBLICATIONS  
545 TECHNOLOGY SQUARE  
CAMBRIDGE, MASSACHUSETTS 02139

UNILOGIC, LTD  
160 N. CRAIG  
PITTSBURG, PENNSYLVANIA 15213



APPENDIX B

MAINTENANCE MANUAL  
TO THE  
DEFENSE DATA NETWORK/TOPS-20 TUTORIAL

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```

-----DDN TUTORIAL-----MAIN PROGRAM-----
AN INTERACTIVE TUTORIAL FOR THE DEFENSE DATA NETWORK
      LCDR M. K. H. HERKERT, USN
      LT S. L. SMITH-MOREAU, USN
US NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIFORNIA

```

```

-----PURPOSE-----MAINTENANCE-----
-
- THIS TUTORIAL IS DESIGNED TO INTRODUCE THE NEW USER TO THE
- COMMANDS AND SYSTEMS IN USE ON THE TOPS-20 VERSION OF THE
- DEFENSE DATA NETWORK (DDN).
-
- THIS PROGRAM IS WRITTEN IN FORTRAN AND WILL PERFORM EQUALLY
- WELL ON EITHER A FULL SCREEN VDT OR A SPOOL PAPER TERMINAL.
-
- QUESTIONS ON THIS PROGRAM AS WELL AS REQUESTS FOR EXTERNAL
- DOCUMENTATION AND MAINTENANCE SHOULD BE MADE TO PROFESSOR
- GARY POOCK (POOCK@ISI.ARPA).
-
-----

```

```

*****INSTALLATION OF PROGRAM*****
# THE FOLLOWING ACTIONS ARE REQUIRED TO INSTALL THIS PROGRAM:
#
# 1. PLACE COPY OF "DDNTUT.FOR" IN THE DIRECTORY FROM WHICH IT
#    IS TO BE RUN.
# 2. EXECUTE THE PROGRAM (EXECUTE DDNTUT.FOR) UNTIL YOU GET TO
#    TO THE INITIAL INTRODUCTION. THIS COMPILES THE PROGRAM;
#    CREATES A "DDNTUT.REL" FILE.
# 3. SET PROTECTION AS FOLLOWS:
#
#     DIRECTIONARY    777740
#     DDNTUT.FOR      777700
#     DDNFOR.REL      777752
#
# THE PROGRAM CAN NOW BE RUN FROM ANY ACCOUNT ON THE HOST BY
# THE USER ENTERING:
#
#     "EXECUTE <DIRECTIONARY WHERE INSTALLED> DDNTUT.FOR"
*****

```

```
INTEGER INPUT
DIMENSION DEM1(1)
```

```

DUM=0
C
C ***** PROVIDE INITIAL INTRODUCTION
C
TYPE 1600
TYPE 100
READ(05,130,ERR=15) DEM1
IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
15 TYPE 110
16 TYPE 120
C
C ***** PROVIDE FOR SELECTION OF DESIRED AREA OF INSTRUCTION
C
READ(05,*,ERR=16) INPUT
IF(INPUT.LT.1.OR.INPUT.GT.16)GO TO 16
IF(INPUT.EQ.16)GO TO 500
GO TO(1,2,3,4,5,6,7,8,9,10,11,12,13,14,17)INPUT
GO TO 15
C
C ***** SUBROUTINE FOR INTRODUCTION TO HELP, ?, AND ACTION
C
1 CALL INTRO(DUM)
GO TO 15
C
C ***** SUBROUTINE FOR BASIC EXECUTIVE LEVEL COMMANDS
C
2 CALL ELC1(DUM)
GO TO 15
C
C ***** SUBROUTINE FOR ADVANCED EXECUTIVE LEVEL COMMANDS
C
3 CALL ELC2(DUM)
GO TO 15
C
C ***** SUBROUTINE FOR INTRODUCTION TO MSG
C
4 CALL AMSG(DUM)
GO TO 15
C
C ***** SUBROUTINE FOR INTRODUCTION TO XED
C
5 CALL AXED(DUM)
GO TO 15
C
C ***** SUBROUTINE FOR INTRODUCTION TO FTP
C
6 CALL AFTP(DUM)
GO TO 15
C
C ***** SUBROUTINE FOR INTRODUCTION TO TN
C
7 CALL ATN(DUM)
GO TO 15
C
C ***** SUBROUTINE FOR INTRODUCTION TO PHOTO

```

```

C
8  CALL APHOTO(DUM)
   GO TO 15
C
C   **** SUBROUTINE FOR INTRODUCTION TO REMIND
C
9  CALL ARMND(DUM)
   GO TO 15
C
C   **** SUBROUTINE FOR INTRODUCTION TO INQUIRE
C
10 CALL AINQR(DUM)
   GO TO 15
C
C   **** SUBROUTINE FOR INTRODUCTION TO FINGER
C
11 CALL AFNGR(DUM)
   GO TO 15
C
C   **** SUBROUTINE FOR INTRODUCTION TO ELECTRONIC MAIL HOSTS (EMH)
C
12 CALL AEMH(DUM)
   GO TO 15
C
C   **** SUBROUTINE FOR INTRODUCTION TO EMACS ---CURRENTLY EMPTY---
C
13 CALL AEMACS(DUM)
   GO TO 15
C
C   ***** SUBROUTINE FOR INTRODUCTION TO GRAPH ---CURRENTLY EMPTY---
C
14 CALL AGRAPH(DUM)
   GO TO 15
C
C   **** SUBROUTINE FOR BIBLIOGRAPHY
C
17 CALL BILBO(DUM)
   GO TO 15
C
C   **** SIGN-OFF ROUTINE
C
500 TYPE 1240
    TYPE 1370
    READ(05,130,ERR=510) DEM1
510  STOP
520  TYPE 1250
    TYPE 1370
    READ(05,130,ERR=530) DEM1
530  STOP
C
C   *****MAIN PROGRAM FORMATS*****
C
C   **** INTRODUCTION
C

```

```

100  FORMAT(///, ' WELCOME TO THE DEFENSE DATA NETWORK
      •(DDN)', ///, ' THE FOLLOWING TUTORIAL IS DESIGNED TO ACQUAINT YOU
      •WITH VARIOUS FEATURES OF', ///, ' THE NETWORK, PROVIDING INSTRUCTIONS
      •AND ALLOWING YOU TO GAIN SOME DEGREE OF', ///, ' PROFICIENCY. THE TUT
      •ORIAL IS INTERACTIVE.', ///, ' ADDITIONAL SOURCES OF INFORMATION ON T
      •HE DDN ARE LISTED IN THE WHERE TO GO', ///, ' NEXT SECTION OF THIS TUT
      •ORIAL.', ///, ' ENTER A "q" TO QUIT, ANY OTHER CHARACTER TO CONTINUE
      •: ', #)

C
C
C      **** SELECTION OF AREA OF INSTRUCTION
110  FORMAT(' TO BEGIN THIS SESSION, SELECT ONE OF THE FOLLOWING TOP
      •ICS:', ///,
      •' 1. INTRODUCTION (HELP,?,ACTION)', ///,
      •' 2. TOPS-20 EXECUTIVE LEVEL COMMANDS (BASIC)', ///,
      •' 3. TOPS-20 EXECUTIVE LEVEL COMMANDS (ADVANCED)', ///,
      •' 4. MESSAGE PREPARATION, SENDING, READING (MSG)', ///,
      •' 5. LINE EDITOR (XED)', ///,
      •' 6. FILE TRANSFERRING (FTP)', ///,
      •' 7. CONNECTING TO ANOTHER COMPUTER (TN)', ///,
      •' 8. COPYING YOUR WORK (PHOTO)', ///,
      •' 9. REMINDERS TO YOURSELF/OTHERS (REMIND)', ///,
      •' 10. FINDING OUT ABOUT (INQUIR)', ///,
      •' 11. IDENTIFYING YOURSELF/OTHERS (FINGER)', ///,
      •' 12. ELECTRONIC MAIL HOSTS (EMH)', ///,
      •' 13. SCREEN EDITOR', ///,
      •' 14. GRAPHICS', ///,
      •' 15. WHERE TO GO FROM HERE', ///,
      •' 16. QUIT', ///)

C
120  FORMAT(' ENTER THE NUMBER CORRESPONDING TO YOUR SELECTION, FOLL
      •OWED BY A <CR>: ', #)

C
130  FORMAT(1A1)
1240 FORMAT(' This terminates the TOPS-20 system tutorial.', ///)
1250 FORMAT(' Sorry to see you quit so soon.', ///)
1370 FORMAT(' Enter any key: ', #)
1600 FORMAT(////)
      END

C
C
C

```

```

C
C
C      SUBROUTINE INTRO(DUM)
C
C      =====INTRODUCTION SUBROUTINE=====
C      = PROVIDES INTRODUCTION TO HELP, ? AND ACTION =
C      =====
C
C      DIMENSION INPUT(1), SLCTN(2)
C      TYPE 1600
C
C      **** INTRODUCTION TO SYSTEM HELP AIDS
C
C      TYPE 100
C      TYPE 200
C      READ(05,1400,ERR=10) INPUT
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C
C      **** INTRODUCTION TO HELP AND ?
C
C      TYPE 105
C      TYPE 200
C      READ(05,1400,ERR=13) INPUT
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C
C      **** INTRODUCTION TO DOCUMENTATION AND ACTION
C
C      TYPE 110
C      TYPE 200
C      READ(05,1400,ERR=15) INPUT
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C
C      **** DEMONSTRATION
C
C      TYPE 120
C      READ(05,1410,ERR=20) SLCTN
C      IF(SLCTN(1).EQ.'Q'.OR.SLCTN(1).EQ.'q')GO TO 520
C      IF(SLCTN(1).EQ.'HELP '.AND.SLCTN(2).EQ.' '.OR.SLCTN(1).EQ.
C      *'help '.AND.SLCTN(2).EQ.' ')GO TO 30
C      IF(SLCTN(1).EQ.'?')GO TO 40
C      IF(SLCTN(1).EQ.'HELP '.AND.SLCTN(2).EQ.'ACTIO'.OR.SLCTN(1).EQ.'hel
C      *p '.AND.SLCTN(2).EQ.'actio')go to 50
C      IF(SLCTN(1).EQ.'HELP '.AND.SLCTN(2).EQ.'SYSTE'.OR.SLCTN(1).EQ.'hel
C      *p '.AND.SLCTN(2).EQ.'syste')GO TO 60
C      IF(SLCTN(1).EQ.'QUIT'.OR.SLCTN(1).EQ.'quit')GO TO 500
C
C      TYPE 135
C      GO TO 15
C
C      TYPE 140
C      GO TO 15
C
C      TYPE 150
C      GO TO 15
C
C      TYPE 160
C      GO TO 15
C
C      TYPE 170
C      GO TO 15

```





3 followed by a carriage return. To see a specific documentation file  
 4e, enter',/,,' "TYPE <DOCUMENTATION>FILENAME.FILETYPE", followed by  
 5 a carriage return; FILENAME',/,,' and FILETYPE are those as shown  
 6 in the directory.',/,/,  
 7' ACTION:',/,/,,' Having exhausted the above and still not satisfied  
 8, or if you have comments',/,,' about the system, etc. you can send  
 9 a message to ACTION. The procedure for',/,,' sending a message is  
 \* covered in the MSG section of this tutorial.',/,/)

C  
 C  
 C

#### \*\*\*\* DEMONSTRATION SELECTION

120 FORMAT(' To see a demonstration of the above commands, type one of  
 1 the following commands',/,,' after the "@" prompt, followed by a c  
 2arriage return.',/,/,,' HELP',/,/,,' ?',/,/,,' HELP ACTION',/,/,  
 3' QUIT',/,/,,' @',/)

C  
 135 C  
 C  
 C  
 C

FORMAT('/',/,,' YOU HAVE NOT SELECTED AN APPROPRIATE CHOICE',/,/)

#### \*\*\*\* HELP

140 FORMAT(' HELP command =====',/,/,,' The HELP command prints helpful d  
 1ocumentation on various system',/,,' features. The "@" is printed  
 2by the system. You type the rest.',/,,' of the line followed by ca  
 3rriage return.',/,/,,' @HELP NAME',/,/,,' will look for, and print ou  
 4t information about the system feature',/,,' named in "NAME". If t  
 5his is your first time using this system',/,,' please type: HELP SY  
 6STEM-MESSAGES',/,/,,' @HELP ?',/,/,,' will give a list of features fo  
 7r which HELP is available and',/,,' retype @HELP to wait for any ad  
 8ditional input.',/,/,,' To see this text again type HELP followed by  
 9 a carriage return.',/,/,,' [End of HELP.HLP]',/,/)

C  
 C  
 C

#### \*\*\*\* AVAILABLE WITH HELP

150 FORMAT(' Command, one of the following:',/,/,,' ACCESS',/,/,,' ADVISE',/,  
 1,' APPEND',/,/,,' ARCHIVE',/,/,,' ASSIGN',/,/,,' ATTACH',/,/,,' BACKSPACE',/,/  
 2 BDDT',/,/,,' BLANK',/,/,,' BREAK',/,/,,' BUILD',/,/,,' CANCEL',/,/,,' CD',/,/,,' CL  
 3OSE',/,/,,' COMPILE',/,/,,' CONNECT',/,/,,' CONTINUE',/,/,,' COPY',/,/,,' CREATE'  
 4,,,' CREF',/,/,,' CSAVE',/,/,,' DAYTIME',/,/,,' DDT',/,/,,' DEASSIGN',/,/,,' DEBU  
 5G',/,/,,' DECLARE',/,/,,' DEFINE',/,/,,' DELETE',/,/,,' DEPOSIT',/,/,,' DETACH',/,  
 6,' DIRECTORY',/,/,,' DISABLE',/,/,,' DISCARD',/,/,,' DISMOUNT',/,/,,' DO',/,/  
 7ECHO',/,/,,' EDIT',/,/,,' ENABLE',/,/,,' END-ACCESS',/,/,,' EOF',/,/,,' ERUN',/,/  
 8 EXAMINE',/,/,,' EXECUTE',/,/,,' EXPUNGE',/,/,,' FDIRECTORY',/,/,,' FINGER',/,/  
 9' FORK',/,/,,' FREEZE',/,/,,' GET',/,/,,' HELP',/,/,,' IDDT',/,/,,' INFORMATION',/  
 \*,/,,' KEEP',/,/,,' KKJOB',/,/,,' KMIC',/,/,,' LIST',/,/,,' LOAD',/,/,,' LOGIN',/,/  
 1LOGOUT',/,/,,' MAIL',/,/,,' MAP',/,/,,' MERGE',/,/,,' MODIFY',/,/,,' MOUNT',/,/,,' N  
 2AME',/,/,,' NO',/,/,,' ORIGINAL',/,/,,' PLOT',/,/,,' POP',/,/,,' PRINT',/,/,,' PUNCH  
 3',/,/,,' PUSH',/,/,,' QDIRECTORY',/,/,,' R',/,/,,' RDIRECTORY',/,/,,' RECEIVE',/,/  
 4' REENTER',/,/,,' REFUSE',/,/,,' REMARK',/,/,,' RENAME',/,/,,' REPLACE',/,/,,' RE  
 5SET',/,/,,' RETRIEVE',/,/,,' REWIND',/,/,,' RUN',/,/,,' SAVE',/,/,,' SET',/,/,,' SKI  
 6P',/,/,,' START',/,/,,' SUBMIT',/,/,,' SYSTAT',/,/,,' TAKE',/,/,,' TALK',/,/,,' TDIR  
 7ECTORY',/,/,,' TERMINAL',/,/,,' TRANSLATE',/,/,,' TYPE',/,/,,' UNATTACH',/,/,,' U  
 8NDECLARE',/,/,,' UNDELETE',/,/,,' UNKEEP',/,/,,' UNLOAD',/,/,,' UNMAP',/,/,,' VDI  
 9RECTORY',/,/,,' WDIRECTORY',/,/,,' XPRESS',/,/,,' or kept fork name',/,/,,'  
 \* or "^L",/,/,,' or system program name',/,/)

C

```

C      **** ACTION
C
160  FORMAT(' The directory <ACTION> exists to receive user messages
1      concerning questions',/, ' suggestions, documentation or proble
2      ms with subsystem software, systems',/, ' operation, director
3      3ies, or terminals. <ACTION>'a message file is scanned',/, '
4      constantly during the day, and all requests are acted upon by U
5      Ser Services',/, ' personnel.',/, ' The purpose of this centralized
6      mailbox is to insure that:',/, ' 1. all comments are readily
7      recognized and acted upon.',/, ' 2. action requests are not de
8      layed in personal message files due to',/, ' unexpected abse
9      nces.',/, ' When in doubt as to where your question, suggestion, e
10     tc. should be sent',/, ' to <ACTION>. Your comments are also welc
11     ie.',/, ' See MSG section of this tutorial for instructions on send
12     ing a message.',/)
170  FORMAT(' Whenever a user los into TOPS-20, any new system messages
1      are printed on',/, '
2      2' on their terminal. The purpose of these messages is to inform u
3      sers of',/, '
4      4' changes to the system.',/, '
5      5' If this is your first session, the system did not display the ne
6      6w system',/, '
7      7' messages to you yet. On the next session you will see all the a
8      8system',/, '
9      9' messages. There may be a lot of messages because we keep 2 mont
10     0hs of',/, '
11     1' messages on line. On later sessions you will see only the new a
12     2essages.',/)
C
200  FORMAT(' TYPE Q TO QUIT, ANY OTHER CHARACTER TO CONTINUE')
C
C      **** SIGN-OFF ROUTINE FORMATS
C
1240  FORMAT(' This concludes the introduction section.',/)
1250  FORMAT(' Sorry to see you quit so soon.',/)
1370  FORMAT(' ENTER ANY KEY TO RETURN TO THE MAIN MENU: ',S)
1400  FORMAT(1A1)
1410  FORMAT(2A5)
1600  FORMAT(////)
      END
C
C
C

```

```

C
C
C      SUBROUTINE ELC1(DUM)
C
C      -----BASIC EXECUTIVE LEVEL COMMANDS SUBROUTINE-----
C      *      THIS SUBROUTINE EXPLAINS AND DEMONSTRATES BASIC COMMANDS
C      *      USEFUL AT THE EXECUTIVE LEVEL OF THE DDM/TOPS-20 SYSTEM.
C      -----
C
C      DIMENSION INPUT(1)
C      DUM=0
C      NEXT=0
C
C      INTRO TO CURSOR COMMANDS
C
C      TYPE 1600
C      TYPE 1100;GO TO 200
15    TYPE 1110;GO TO 200
20    TYPE 1115;GO TO 200
C
C      INTRO TO DIRECTORY RELATED COMMANDS
C
25    TYPE 1120;GO TO 200
30    TYPE 1125
      NEXT=NEXT+1
      READ(05,1400,ERR=35) INPUT
C
C      QUERY IF USER DESIRES DEMONSTRATION
C
C      IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 100
C
C      DEMONSTRATION SUBROUTINES
C
35    CALL DIRECT(DUM)
      GO TO 200
40    CALL TYPE(DUM)
      GO TO 200
45    CALL APPEND(DUM)
      GO TO 200
50    CALL RENAME(DUM)
      GO TO 200
55    CALL ARCHIV(DUM)
      GO TO 200
60    CALL DELETE(DUM)
      GO TO 200
65    CALL UNDEL(DUM)
      GO TO 200
70    CALL EXPUNG(DUM)
      GO TO 100
100   NEXT=12
C
C      INTRO TO SYSTEM RELATED COMMANDS
C
      TYPE 1200
      GO TO 200

```

```

105  TYPE 1205
      GO TO 500
C
C    QUERY TO SEE IF USER DESIRES TO CONTINUE
C
200  TYPE 1300
      NEXT=NEXT+1
      READ(05,1400,ERR=205) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
205  GOTO (15,20,25,30,35,40,45,50,55,60,65,70,105) NEXT
C
C    **** SIGN-OFF ROUTINE
C
500  TYPE 1240
      TYPE 1370
      READ(05,1400,ERR=510) INPUT
510  RETURN
520  TYPE 1250
      TYPE 1370
      READ(05,1400,ERR=530) INPUT
530  RETURN
C
C
C    *****FORMATS FOR BASIC EXECUTIVE LEVEL COMMANDS SUBROUTINE*****
C
C    **** LISTING OF EXECUTIVE LEVEL COMMANDS
C
1100 FORMAT(20X,'EXECUTIVE LEVEL COMMANDS (BASIC)',//,
1' You are in the Executive (EXEC) Level of the TOPS-20 operating s
2ystem after',//,
3' you log on or after execution of system routines; noted by the d
4isplay of '//,
5' the "@" prompt.  Commands here fall into three categories:'',//,
6' 1. Cursor Commands',//,
7' 2. Directory-Related Commands',//,
8' 3. System-Related Commands'',//,
9' The more basic/most often used of these commands are presented i
0n this section'//,' of the tutorial.  The remainder are presented
1in section three.'',//,
2' Notes:'',//,
3' 1. The " ^ " character refers to the control (CTRL) key.'',//,
4' 2. ESC refers to the escape (ESC) key.'',//,
5' 3. <CR> refers to the carriage return or enter key.'',//,
6' 4. DEL refers to the delete (DEL) key.'//)
C
C    **** CURSOR COMMANDS
C
1110 FORMAT(20X,'BASIC CURSOR COMMANDS',//,
1' KEY (a) USE (a)'',//,
2' ESC This key usually completes a command or FileName. On
3ce you have'//,' typed enough of a command or FileName
4for the system to recognize'//,' it, type the Escape ke
5y to complete it. If you haven't typed'//,' enough, t
6he system simply beeps and waits for you to type more.'//,

```

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7' CTRL      Used with another key to enter a command. You may ho
8ld down the',/,,' CTRL key as long as you want, but shou
9ld press the other key only',/,,' once (the same as you
would use the shift key on a typewriter).',/,/,
1' ^C        Used to abort a partially typed or partially complete
2d command ',/,,' (sometimes this may require several ^C
3s). If you are in the middle ',/,,' of a program, typin
4g ^C will return you to the EXEC level. (This is',/,,' n
5ot usually the best way to leave a program).',/,/,
C
1115 FORMAT(' @          Prompt for the EXEC level. (To enter this cha
racter into text',/,/,
2'          while accessing the host through a TAC, type it twice
' -- the system',/,/,
'          will respond with a third "0").',/,/,
3' DEL       Deletes characters from right to left.',/,/,
6' ^O       Stops terminal output.',/,/,
' ^W        Deletes words from right to left.',/,/,
1' ^Z        End-of-file. Used whenever you have finished enterin
2g data, text',/,/, messages, etc.',/,/,
3' <CR>      Confirms a given command. Most commands are not exec
4uted until you',/,,' type a carriage return.',/,/)
C
C          LISTING OF DIRECTORY RELATED COMMANDS
C
1120 FORMAT('          DIRECTORY-RELATED COMMANDS',/,/,
1' A complete listing of Directory-Related commands can be seen by
2typing "?",/,,' after the "0" prompt. The following is a listing
3of those most often used.',/,/,
4' Note: A filename within the TOPS-20 system is composed of a nam
5e, a type and',/,,' a generation number. Thus, HOMEWORK.EXE.5 is a
6file with a name of "HOMEWORK",/,,' a type of "EXE" and is the fi
7fth generation. In the following material, we',/,,' abbreviate file
8name with "FN"; filetype with "FT"; generation number with "NU".',
/,/,
5' Command   Use (a)',/,/,
6' DIRECTORY Lists the names of all of your files.',/,/,
7' TYPE      Types the contents of a file.',/,/,
8' APPEND    Appends one file to another',/,/)
C
1125 FORMAT(' RENAME      Renames a file.',/,/,
1' ARCHIVE   Places a file in off-line storage.',/,/,
2' DELETE    Deletes a file from your directory.',/,/,
3' UNDELETE  Puts "DELETED" files back in your directory unless yo
4u have',/,,' "EXPUNGED" or logged off or occasionally,
'if the system crashes',/,/,
5'          after you "DELETED" the files.',/,/,
6' EXPUNGE   Permanently erases all "DELETED" files.',/,/,
7' WOULD YOU LIKE A DEMONSTRATION OF THE ABOVE COMMANDS (Y or N)?',
8s)
C
C          LISTING OF SYSTEM RELATED COMMANDS
C
1200 FORMAT('          SYSTEM-RELATED COMMANDS (BASIC)',/,/,
1' System related commands include:',/,/,

```

```

2' FINGER      SYSTAT      TALK      REF',,,
3' REC        INFO DISK    INFO MAIL  TER NO RAISE',,,,
4' FINGER and SYSTAT are discussed in the following. The others ar
4e',,, presented in the third section (TOPS-20 LEVEL COMMANDS - AD
SVANCED)',,,)

```

C

```

1205 FORMAT (' FINGER:',,,
1' FINGER is used to find out information about a specific user, an
2d',,, is invoked by typing "FINGER USER <CR>" after the "@" promp
3t (USER',,, refers to the account name)',,,
4' SYSTAT:',,,
5' SYSTAT is used to see everyone, or if a specific individual is l
*ogged on a',,,
6' specific host. Typing SYSTAT after the "@" prompt followed by a
* <CR> will',,,
7' list everyone on the net. To see if a particular individual is
*on the net',,,
8' type "SY USER <CR>" after the "@" prompt. The system will answ
*r with the',,,
9' Job Number, etc. for that individual, or with just an "@" prompt
*. The latter',,,
1' indicates that the USER is',,, not on the net.',,,)

```

C

```

C      **** SIGN-OFF ROUTINE
C

```

```

1240 FORMAT(' This concludes the "basic" Executive Level Command sectio
1n of the',,, tutorial.',,,)
1250 FORMAT(' SORRY TO SEE YOU LEAVE SO SOON',,,)
1300 FORMAT(' DO YOU WISH TO CONTINUE (Y or N)?',,,)
1370 FORMAT(' ENTER ANY KEY TO RETURN TO THE MAIN MENU: ',s)
1400 FORMAT(A1)
1600 FORMAT(/////)
      END

```

C

C

```

C
C
SUBROUTINE DIRECT(DUM)
C
C *****DIRECTORY SUB-SUBROUTINE*****
C = DEMONSTRATION OF VIEWING YOUR DIRECTORY OF FILES LISTING =
C *****
C
DIMENSION DEMO(2),INPUT(1)
NUM=0
5 TYPE 100
10 READ(05,105,ERR=15) DEMO
IF(DEMO(1).EQ.'Q'.OR.DEMO(1).EQ.'q')GO TO 40
IF(DEMO(1).EQ.'DIREC'.AND.DEMO(2).EQ.'TORY'.OR.DEMO(1).EQ.'direc'.
1AND.DEMO(2).EQ.'tory'.OR.DEMO(1).EQ.'DIR'.AND.DEMO(2).EQ.' '.OR.DE
2MO(1).EQ.'dir'.AND.DEMO(2).EQ.' ')GO TO 35
15 NUM=NUM+1
GO TO (20,25,30)NUM
20 TYPE 110
GO TO 10
25 TYPE 115
GO TO 10
30 NUM=0
TYPE 120
READ(05,125,ERR=15) INPUT
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
GO TO 40
35 TYPE 130
40 RETURN
C
C ***** FORMATS FOR DIRECTORY SUB-SUBROUTINE*****
C
100 FORMAT(/// DIRECTORY:',//,
1' Typing in "DIRECTORY" or just "DIR" after the "@" prompt followe
2d by a <CR>',//,' will list the current contents of your directory.
3 Give it a try.',//,' @',s)
105 FORMAT(2A5)
110 FORMAT(' NOPE! TRY AGAIN.',//,' @',s)
115 FORMAT(' NOPE! TRY HARDER.',//,' @',s)
120 FORMAT(' What you should have typed in after the "@" prompt was:',
1//,' DIRECTORY or DIR',//,' CARE TO TRY AGAIN (Y or N)?',s)
125 FORMAT(A1)
130 FORMAT(' PS:<YOUR ACCOUNT NAME>',//,
1' $XED-MODE-FILES..1 (This file controls the XED editor',//,
2' (MSG.PROFILE).1 (This file controls the MSG system)',//,
3' FINGER.PLAN.1',//,
4' HAS.ANY.1',//,
5' MAIL.TXT.1 (This file controls your mailbox)',//,
6' REMIND.RMD.1',//,
7' Total of 23 pages in 6 files',//,
8' The above is what you would see, except for the notes to the rig
9ht.',//,' NOTE: NEVER DELETE ANY OF THESE CONTROL FILES UNTIL YOU
* ARE FAMILIAR WITH',//,' THE SYSTEM.',//)
END
C

```



```

C
C
C      SUBROUTINE TYPE(DUM)
C
C      =====TYPE SUB-SUBROUTINE=====
C      =          DEMONSTRATION OF TYPE COMMAND          =
C      =====
C
C      DIMENSION DEMO(3),INPUT(1)
C      NUM=0
5      TYPE 100
10     READ(05,105,ERR=15) DEMO
        IF(DEMO(1).EQ.'Q'.OR.DEMO(1).EQ.'q')GO TO 40
        IF(DEMO(1).EQ.'TYPE '.AND.DEMO(2).EQ.'FACE.'.AND.DEMO(3).EQ.'WHO.1
1' .OR.DEMO(1).EQ.'type '.AND.DEMO(2).EQ.'face.'.AND.DEMO(3).EQ.'who
2.1')GO TO 35
15     NUM=NUM+1
        GO TO (20,25,30)NUM
20     TYPE 110
        GO TO 10
25     TYPE 115
        GO TO 10
30     NUM=0
        TYPE 120
        READ(05,125,ERR=15) INPUT
        IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
        GO TO 40
35     TYPE 130
40     RETURN
C
C      **** FORMATS FOR THE TYPE SUB-SUBROUTINE*****
C
100    FORMAT(/// TYPE:',/,/,
1' The "TYPE" command is invoked by typing "TYPE FN.FT.NU <CR>" aft
2er the "@',/,/' prompt. Try TYPing out the contents of the FACE.W
3HO.1 file.',/,/' @',s)
105    FORMAT(3A5)
110    FORMAT(' YOU CAN DO BETTER THAN THAT',/,/' @',s)
115    FORMAT(' WHY DON''T YOU TAKE ANOTHER STAB AT IT',/,/' @',s)
120    FORMAT(' What you should have typed in after the "@" prompt was:',
1'/',' TYPE FACE.WHO.1',/,/' CARE TO TRY AGAIN (Y or N)?',s)
125    FORMAT(A1)
130    FORMAT(
1'          XXXXXXXXXXXX      ',/,
2'          XXXXXXXXXXXX      ',/,
3'          XXXXXXXXXXXX      ',/,
5'          XXX          XXX      ',/,
6'          XXX          XXX      ',/,
7'          XXX XXXX      XXXX XXX ',/,
8'          XX X XX X   X XX X XX ',/,
9'          XX X XX X   X XX X XX ',/,
*'          XXX XXXX XXX XXXX XXX ',/,
1'          XXX          XXX      ',/,
2'          XXXX          XXX      ',/,
3'          XXXX          XXXX      ',/,

```

```

4'   XXXX      X  X      XXXX
5'   XXXXXX      XXX      XXXXXX
6'   XXXXXXXX      XXXXXXXX
7'   XXXXXXXXX  XX  XX  XXXXXXXX
8'       X      XXXXXXXX  X
9'       X      XXXXXX   X
10'      X              X
11'      X              X
12'     XXX            XXX
13'    XX XX          XX XX
14'    XX XXXXXXXXXXXX XX
15'    X      X X      X
16'    X      X  X      X
17'    X    XX    XX    X
18'     XXXXX      XXXXX
19'      X        X
20'      X          X
21'     XX      XX
22'     XX XX
23'     XXXXX
24'     XXX
5' THE FATHER OF YOUR COUNTRY...GEORGE WASHINGTON',//)
END

```

C  
C

```

C
C
SUBROUTINE APPEND(DUM)
C
C *****APPEND SUB-SUBROUTINE*****
C = DEMONSTRATION OF APPENDING ONE FILE TO ANOTHER =
C *****
C
DIMENSION DEMO(6),INPUT(1)
NUM=0
5 TYPE 100
10 READ(05,105,ERR=15) DEMO
IF(DEMO(1).EQ.'APPEN'.AND.DEMO(2).EQ.'D TEN'.AND.DEMO(3).EQ.'P2.FO
1'.AND.DEMO(4).EQ.'R.1 T'.AND.DEMO(5).EQ.'EMP1.'.AND.DEMO(6).EQ.'FO
2R.1'.OR.DEMO(1).EQ.'appen'.AND.DEMO(2).EQ.'d ten'.AND.DEMO(3).EQ.
3'p2.fo'.AND.DEMO(4).EQ.'r.1 t'.AND.DEMO(5).EQ.'emp1.'.AND.DEMO(6).
4EQ.'for.1')GO TO 35
15 NUM=NUM+1
GO TO (20,25,30)NUM
20 TYPE 110
GO TO 10
25 TYPE 115
GO TO 10
30 NUM=0
TYPE 120
READ(05,125,ERR=15) INPUT
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
GO TO 40
35 TYPE 130
40 RETURN
C
C *****FORMATS FOR THE APPEND SUB-SUBROUTINE*****
C
100 FORMAT(/// APPEND:',//,
1' The "APPEND" command is typed after the "@" prompt, followed by
2the file to',//,' be appended, followed by the file to be appended
3to, followed by a <CR>. i.e.',//,' "APPEND B.1.1 A.1.1<CR>" will ca
4use the contents of the B file to be placed',//,' in the A file at
5the end. Try appending TEMP2.FOR.1 to TEMP1.FOR.1.',//,' @',s)
105 FORMAT(6A5)
110 FORMAT(' OH DEAR! TRY AGAIN.',//,' @',s)
115 FORMAT(' NOPE! TRY HARDER.',//,' @',s)
120 FORMAT(' What you should have typed in after the "@" prompt was:',
1//,' APPEND TEMP2.FOR.1 TEMP1.FOR.1',//,' CARE TO TRY AGAIN (Y or
2N)?',s)
125 FORMAT(A1)
130 FORMAT(' TEMP2.FOR.1 [OK]',//,' THE ABOVE LINE INDICATES COMPLETIO
1N OF THE APPEND.',//)
END
C
C

```

```

C
C
SUBROUTINE RENAME(DUM)
C
C *****RENAME SUB-SUBROUTINE*****
C = DEMONSTRATION OF RENAMING A FILE =
C *****
C
DIMENSION DEMO(4),INPUT(1)
NUM=0
5 TYPE 100
10 READ(05,105,ERR=15) DEMO
IF(DEMO(1).EQ.'Q'.OR.DEMO(1).EQ.'q')GO TO 40
IF(DEMO(1).EQ.'RENAM'.AND.DEMO(2).EQ.'E TTT'.AND.DEMO(3).EQ.'...1 T
1'.AND.DEMO(4).EQ.'AT..1'.OR.DEMO(1).EQ.'renam'.AND.DEMO(2).EQ.'e t
2tt'.AND.DEMO(3).EQ.'...1 t'.AND.DEMO(4).EQ.'at..1')GO TO 35
15 NUM=NUM+1
GO TO (20,25,30)NUM
20 TYPE 110
GO TO 10
25 TYPE 115
GO TO 10
30 NUM=0
TYPE 120
READ(05,125,ERR=15) INPUT
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
GO TO 40
35 TYPE 130
40 RETURN
C
C ***** FORMATS FOR THE RENAME SUB-SUBROUTINE*****
C
100 FORMAT(' RENAME:',//,
1' The "RENAME" command is issued by typing "RENAME (old) FN.FT.NU
2(new) FN.FT',//,' <CR>" after the "@" prompt. Let's give it a try
3 by renaming TTT..1 to TAT..1.',//,' @',%)
105 FORMAT(4A5)
110 FORMAT(' NOPE! TRY AGAIN.',//,' @',%)
115 FORMAT(' NOPE! TRY HARDER.',//,' @',%)
120 FORMAT(' What you should have typed in after the "@" prompt was:',
1//,' RENAME TTT..1 TAT..1',//,' CARE TO TRY AGAIN (Y or N)?',%)
125 FORMAT(A1)
130 FORMAT(' TTT..1 => TAT..1 [OK]',//,' THE LINE ABOVE SHOWS US THAT
1THE RENAME IS COMPLETE.',//)
END
C
C

```

```

C
C
SUBROUTINE ARCHIV(DUM)
C
C -----ARCHIVE SUB-SUBROUTINE-----
C = DEMONSTRATION OF HOW FILES ARE ARCHIVED (OFF-LINE STORAGE) =
C -----
C
DIMENSION DEMO(3),INPUT(1)
NUM=0
5 TYPE 100
10 READ(05,105,ERR=15) DEMO
IF(DEMO(1).EQ.'Q'.OR.DEMO(1).EQ.'q')GO TO 40
IF(DEMO(1).EQ.'ARCHI'.AND.DEMO(2).EQ.'VE TA'.AND.DEMO(3).EQ.'T..1'
1.OR.DEMO(1).EQ.'archi'.AND.DEMO(2).EQ.'ve ta'.AND.DEMO(3).EQ.'t..1
2')GO TO 35
15 NUM=NUM+1
GO TO (20,25,30)NUM
20 TYPE 110
GO TO 10
25 TYPE 115
GO TO 10
30 NUM=0
TYPE 120
READ(05,125,ERR=15) INPUT
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
GO TO 40
35 TYPE 130
40 RETURN
C
C **** FORMATS FOR THE ARCHIVE SUB-SUBROUTINE*****
C
100 FORMAT(/// ARCHIVE:',/,
1' The "ARCHIVE" command is typed after the "@" prompt followed by
2 the FN.FT.NU',/, (of the file you wish saved off-line) followed
3 by a <CR>. Thus, "ARCHIVE ',/, FINGER.PLAN.1 <CR>" would request
4 the Finger file be archived. Give it',/, a try by ARCHIVEing th
5e TAT..1 file.',/, ' @',S)
105 FORMAT(3A5)
110 FORMAT(' Haaa. I'LL PRETEND I DIDN'T SEE THAT WHILE YOU TRY AGAI
1N.',/, ' @',S)
115 FORMAT(' NOPE! TRY HARDER.',/, ' @',S)
120 FORMAT(' What you should have typed in after the "@" prompt was:',
1/, ' ARCHIVE TAT..1',/, ' CARE TO TRY AGAIN (Y or N)?',S)
125 FORMAT(A1)
130 FORMAT(' TAT..1 (REQUESTED)',/, ' THE ABOVE LINE INDICATES THAT TH
1E FILE WILL BE ARCHIVED.',/)
END
C
C

```

```

C
C
SUBROUTINE DELETE(DUM)
C
C -----DELETE SUB-SUBROUTINE-----
C *      DEMONSTRATION OF DELETING A FILE      *
C -----
C
  DIMENSION DEMO(4),INPUT(1)
  NUM=0
5  TYPE 100
10 READ(05,105,ERR=15) DEMO
  IF(DEMO(1).EQ.'Q'.OR.DEMO(1).EQ.'q')GO TO 40
  IF(DEMO(1).EQ.'DELET'.AND.DEMO(2).EQ.'E HAS'.AND.DEMO(3).EQ.'ANY.
1' .AND.DEMO(4).EQ.'1'.OR.DEMO(1).EQ.'delet'.AND.DEMO(2).EQ.'e has'.
2AND.DEMO(3).EQ.'any.'.AND.DEMO(4).EQ.'1')GO TO 35
15  NUM=NUM+1
  GO TO (20,25,30)NUM
20  TYPE 110
  GO TO 10
25  TYPE 115
  GO TO 10
30  NUM=0
  TYPE 120
  READ(05,125,ERR=15) INPUT
  IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
  GO TO 40
35  TYPE 130
40  RETURN
C
C *****FORMATS FOR THE DELETE SUB-SUBROUTINE*****
C
100  FORMAT(/// DELETE:',//,
1' The "DELETE" command is typed after the "@" prompt followed by t
2he',//, ' FN.FT.NU (of the file you wish to delete) followed by a <C
3R>. 1e "DELETE',//, ' FINGER.PLAN.1 <CR>" would delete the Finger f
4ile. Now it's your turn. Type in',//, ' the appropriate command to
5 delete the HAS.ANY.1 file.',//, ' @',s)
105  FORMAT(4A5)
110  FORMAT(' TRY AGAIN, SWEETIE. I WON'T TELL.',//, ' @',s)
115  FORMAT(' ALRIGHT, YOU CAN HAVE ONE MORE CHANCE.',//, ' @',s)
120  FORMAT(' What you should have typed in after the "@" prompt was:',
1///, ' DELETE HAS.ANY.1',//, ' CARE TO TRY AGAIN (Y or N)?',s)
125  FORMAT(A1)
130  FORMAT(' HAS.ANY.1 [OK]',//, ' THE ABOVE LINE INDICATES THAT THE FI
1LE HAS BEEN DELETED.',//)
  END
C
C

```

```

C
C
SUBROUTINE UNDEL(DUM)
C
C -----UNDELETE SUB-SUBROUTINE-----
C      DEMONSTRATION OF UNDELETING A FILE
C -----
C
DIMENSION DEMO(3),INPUT(1)
NUM=0
5  TYPE 100
10 READ(05,105,ERR=15) DEMO
   IF(DEMO(1).EQ.'Q'.OR.DEMO(1).EQ.'q')GO TO 40
   IF(DEMO(1).EQ.'UNDEL'.AND.DEMO(2).EQ.'ETE T'.AND.DEMO(3).EQ.'AT..1
1' .OR.DEMO(1).EQ.'undel'.AND.DEMO(2).EQ.'ete t'.AND.DEMO(3).EQ.'at.
2.1')GO TO 35
15  NUM=NUM+1
   GO TO (20,25,30)NUM
20  TYPE 110
   GO TO 10
25  TYPE 115
   GO TO 10
30  NUM=0
   TYPE 120
   READ(05,125,ERR=15) INPUT
   IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
   GO TO 40
35  TYPE 130
40  RETURN
C
C -----FORMATS FOR UNDELETE SUB-SUBROUTINE-----
C
100 FORMAT(/// UNDELETE:',//,
1' The "UNDELETE" command is typed after the "@" prompt followed by
2 the FN.FT.NU',//, ' (of the file you wish returned to the directory
3) followed by a <CR>. That is',//, ' "UNDELETE FINGER.PLAN.1 <CR>"
4would return the Finger file. Lets''a give it',//, ' a try by UNDEL
5ETEing the TAT..1 file.',//, ' @',s)
105 FORMAT(3A5)
110 FORMAT(' NOPE! TRY AGAIN.',//, ' @',s)
115 FORMAT(' ONCE MORE PLEASE.',//, ' @',s)
120 FORMAT(' What you should have typed in after the "@" prompt was:',
1//, ' UNDELETE TAT..1',//, ' CARE TO TRY AGAIN (Y or N)?',s)
125 FORMAT(A1)
130 FORMAT(' TAT..1 [OK]',//, ' THE ABOVE LINE INDICATES THAT THE FI
1LE HAS BEEN RETURNED.',//)
END
C
C

```

```

C
C
SUBROUTINE EXPUNG(DUM)
C
C *****EXPUNGE SUB-SUBROUTINE*****
C      DEMONSTRATION OF EXPUNGING AN ACCOUNT
C *****
C
  DIMENSION DEMO(2),INPUT(1)
  NUM=0
5  TYPE 100
10 READ(05,105,ERR=15) DEMO
  IF(DEMO(1).EQ.'Q'.OR.DEMO(1).EQ.'q')GO TO 40
  IF(DEMO(1).EQ.'EXPUN'.AND.DEMO(2).EQ.'GE'.OR.DEMO(1).EQ.'expun'.AN
1D.DEMO(2).EQ.'ge')GO TO 35
15  NUM=NUM+1
  GO TO (20,25,30)NUM
20  TYPE 110
  GO TO 10
25  TYPE 115
  GO TO 10
30  NUM=0
  TYPE 120
  READ(05,125,ERR=15) INPUT
  IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y') GO TO 5
  GO TO 40
35  TYPE 130
40  RETURN
C
C *****FORMATS FOR EXPUNGE SUB-SUBROUTINE*****
C
100 FORMAT(/// EXPUNGE:',//,
1' This command is typed after the "@" prompt followed by a <CR>.
2No FileName',//, is required, as it permanently erases ALL files f
3or which you had previously',//, issued the "DELETE" command. Giv
4e it a try.',//, @',#)
105 FORMAT(2A5)
110 FORMAT(' NOPE! TRY AGAIN.',//, @',#)
115 FORMAT(' NOPE! TRY HARDER.',//, @',#)
120 FORMAT(' What you should have typed in after the "@" prompt was:',
1///, EXPUNGE',//, CARE TO TRY AGAIN (Y or N)?',#)
125 FORMAT(A1)
130 FORMAT(' PS:<YOUR ACCOUNT NAME> [10 PAGES FREED]',//, THE ABOVE L
1LINE INDICATES THAT YOUR DIR HAS BEEN EXPUNGED.',//)
  END
C
C

```



```

C
C
C      SUBROUTINE ELC2(DUM)
C
C      -----ADVANCED EXECUTIVE LEVEL COMMANDS SUBROUTINE-----
C      =      THIS SUBROUTINE EXPLAINS AND DEMONSTRATES HIGHER LEVEL      =
C      =      COMMANDS AT THE EXECUTIVE LEVEL OF THE DDN/TOPS-20 SYSTEM      =
C      =      SYSTEM. IT SERVES AS A FOLLOW-ON TO THE ELC1 SUBROUTINE.      =
C      -----
C
C      DIMENSION INPUT(1)
C      DUM=0
C
C      **** INTRO TO EXECUTIVE LEVEL RELATED COMMANDS
C
C      TYPE 1600
C      TYPE 1100
C      TYPE 1320
C      TYPE 1330
C      READ(05,1400,ERR=15) INPUT
C      TYPE 1600
15      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C      TYPE 1110
C      TYPE 1330
C      READ(05,1400,ERR=25) INPUT
C      TYPE 1600
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C
C      **** INTRO TO DIRECTORY RELATED COMMANDS
C
C      25      TYPE 1120
C      TYPE 1330
C      READ(05,1400,ERR=35) INPUT
C      TYPE 1600
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C
C      **** INTRO TO SYSTEM RELATED COMMANDS
C
C      35      TYPE 1200
C      TYPE 1330
C      READ(05,1400,ERR=40) INPUT
C      TYPE 1600
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C      40      TYPE 1205
C      TYPE 1330
C      READ(05,1400,ERR=105) INPUT
C      TYPE 1600
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C      105      TYPE 1210
C      TYPE 1330
C      READ(05,1400,ERR=110) INPUT
C      TYPE 1600
C      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C      110      TYPE 1220
C

```

```

C      **** QUERY TO SEE IF USER DESIRES DEMONSTRATION OF TALK COMMAND
C
      READ(05,1400,ERR=499) INPUT
      IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n') GO TO 520
499    CALL TALK(DUM)
500    TYPE 1240
      TYPE 1370
      READ(05,1400,ERR=510) INPUT
510    RETURN
520    TYPE 1250
      TYPE 1370
      READ(05,1400,ERR=530) INPUT
530    RETURN
C
C      ****FORMATS FOR ADVANCED EXECUTIVE LEVEL COMMANDS SUBROUTINE*****
C
C      **** DEMONSTRATION OF EXECUTIVE LEVEL COMMANDS
C
1100  FORMAT(20X,'EXECUTIVE LEVEL COMMANDS (ADVANCED)',//,
1' You are in the Executive (EXEC) Level of the TOPS-20 operating a
'system after',//,
2' you log on or after execution of system routines. You are in th
'is level when',//,
3' the system prompts you with the "@" prompt. Commands at this le
'vel fall into',//,
4' three categories:',//,
5'   1. Cursor Commands',//,
6'   2. Directory-Related Commands',//,
7'   3. System-Related Commands',//,
8' The more basic/most often used of these commands were presented
9in section 2',//, of the tutorial. The remainder are presented
'here.',//,
1' Notes:',//,
2'   1. The "^" character refers to the control (CTRL) key.',//,
3'   2. ESC refers to the escape (ESC) key.',//,
4'   3. <CR> refers to the carriage return or enter key.',//,
5'   4. DEL refers to the delete (DEL) key.',//)
1110  FORMAT(20X,'ADVANCED CURSOR COMMANDS',//,
1' KEY (s)   USE (s)',//,
2' ^T        This command can be used to satisfy yourself that the
3 system is',//, still running. For example, if the syst
4em is responding slowly and',//, you type ^T, informati
5on on the system status and the amount of',//, CPU time
6 you have used since you logged on is displayed.',//,
7' ^S        Freezes typeout on the screen and acts as a No Scroll
8 key.',//,
1' ^Q        Resumes typeout on a screen that was stopped by a ^S
2command.',//)
C
C      **** DEMONSTRATION OF DIRECTORY RELATED COMMANDS
C
1120  FORMAT('          DIRECTORY RELATED COMMANDS',//,
1' A complete listing of Directory Related commands can be seen by
2typing "?",//, after the "@" prompt. The following is a listing

```

3 of those most often used. ' , / , ' Note: FN = FileName; FT = FileTy  
 4 pe; NU = FileNumber ' , / ,  
 5 ' Command Use (a) ' , / ,  
 6 ' SET DIR PASS This command changes your password. ' , / ,  
 7 ' PROTECTION The protection for each file in your directory cons  
 8ists of a ' , / , ' six-digit number divided into three groups of two d  
 9igits each. The ' , / , ' first pair represents owner access to the fil  
 \*e, the second pair represents ' , / ,  
 1' group access, and the last pair represents world access to the f  
 \*ile. ' , / ,  
 2' By setting the protection for files in your directory, you can c  
 \*ontrol who ' , / ,  
 3' can access and/or change your files. The default protection is 7  
 \*75200. ' , / ,  
 4' This allows you full access (77), members of your group partial  
 \*access ' , / ,  
 5' (to list your directory, and to read and execute your files: 52)  
 \*, and ' , / ,  
 6' prohibits all other users from gaining access to your files (00)  
 \*. ' , / ,  
 7' For more info, type HELP PROTECTION. ' , / ,)

C  
C  
C

\*\*\*\* DEMONSTRATION OF SYSTEM RELATED COMMANDS

1200 FORMAT(' SYSTEM-RELATED COMMANDS (ADVANCED) ' , / ,  
 1' System related commands include: ' , / ,  
 2' FINGER SYSTAT TALK REF ' , / ,  
 3' REC INFO DISK INFO MAIL TER NO RAISE ' , / ,  
 4' FINGER and SYSTAT were previously discussed. The others are ' , / ,  
 5' presented here. ' , / ,)  
 1205 FORMAT(' ATTACH: ' , / ,  
 1' ATTACH Attaches a you to a job. For example, if you some  
 \*how get ' , / ,  
 2' detached from your directory before you get a chance to log out,  
 \* log back ' , / ,  
 3' in to the host and ATTACH yourself to the your old job number.  
 \*If you don't ' , / , ' remember what your old job number was, just SYS  
 \*TAT yourself. ' , / ,  
 4' TER NO RAISE: ' , / ,  
 5' TER NO RAISE Makes your terminal accept both upper and lower c  
 6ase ' , / , ' letters if, for some reason, it is only accepting upper c  
 7ase ' , / , ' letters. ' , / ,  
 8' INFO MAIL: ' , / ,  
 9' INFO MAIL Asks the system to list any unlooked-at messages in  
 \* ' , / , ' your mailbox. ' , / ,  
 1' INFO DISK: ' , / ,  
 2' INFO DISK Lists information about your current page allocatio  
 3n for ' , / , ' directories and for the system. ' , / ,)  
 1210 FORMAT(' TALK: ' , / ,  
 1' TALK <user> Creates a communication link with another user. Use  
 \* this in place ' , / ,  
 2' place of a message if the other user is logged on at the same ti  
 \*me you are. ' , / ,  
 3' If you suddenly see the phrase "LINK FROM <username>" appear on  
 \*your screen. ' , / ,

```

*' type a ^C, which puts a hold on what you were doing. You can the
*n talk to the',/,,' other person by prefacing your lines with the s
*ymbol ! or ;',/,/,
4' BREAK:',/,/,
5' BREAK          This command breaks the communication link with the
6 other',/,,' user.',/,/)
1220 FORMAT(' CONTINUE:',/,/,
7' CONTINUE      This command must be typed by the person who was in
*errupted',/,,' and will take him/her back to the place of interrup
*tion.',/,/,
4' REFUSE:',/,/,
5' REFUSE        If you do not wish to be interrupted while you are
6 on the',/,,' net, type REFUSE in your LOGIN.CMD file.',/,/,
7' RECEIVE:',/,/,
8' RECEIVE       If you don't mind people talking to you while you
9 are on the',/,,' net, type RECEIVE in your LOGIN.CMD file.',/,/,
*' WOULD YOU LIKE A DEMONSTRATION OF THE ABOVE COMMANDS (Y or N)? '
*,s)
1240 FORMAT(' THIS CONCLUDES THE ADVANCED EXECUTIVE LEVEL COMMANDS SECT
1ION ',/,,' OF THIS TUTORIAL.',/,/)
1250 FORMAT(' Sorry to see you quit early. Good bye.',/,/)
1320 FORMAT(' NOTE: YOU MAY QUIT THE FOLLOWING DEMONSTRATION AT ANY TIM
2E SIMPLY',/,,' BY TYPING A "Q <CR>" IN RESPONSE TO ANY PROMPT.',/,)
1330 FORMAT(' ENTER A "Q" TO QUIT, ANY OTHER KEY TO CONTINUE: ',s)
1370 FORMAT(' ENTER ANY KEY TO RETURN TO MAIN MENU: ',s)
1400 FORMAT(1A1)
1600 FORMAT(/////
END

```

C  
C

```

C
C
SUBROUTINE TALK(DUM)
C
C *****TALK SUBROUTINE*****
C = DEMONSTRATE TALK/LINK COMMANDS =
C *****
C
DIMENSION DEM1(3),INPUT(1)
TYPE 1600
NUM=0
25 TYPE 120
30 READ(05,205,ERR=30) DEM1
IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 60
IF(DEM1(1).EQ.'TALK '.AND.DEM1(2).EQ.'TO ED'.AND.DEM1(3).EQ.'ZEL'
1.OR.DEM1(1).EQ.'talk '.AND.DEM1(2).EQ.'to ed'.AND.DEM1(3).EQ.'ze
21')GO TO 50
NUM=NUM+1
GO TO (35,40,45) NUM
35 TYPE 300
GO TO 30
40 TYPE 310
GO TO 30
45 TYPE 140
TYPE 320
READ(05,210,ERR=45)INPUT
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 60
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 25
50 NUM=0
C
C SIGN-OFF ROUTINE
C
TYPE 200
TYPE 350
READ(05,210,ERR=55) INPUT
55 RETURN
60 TYPE 340
70 RETURN
C
C *****FORMATS FOR TALK SUBROUTINE*****
C
C **** DEMONSTRATION OF TALK/LINK COMMANDS
C
120 FORMAT(' To initiate a conversation with your coworker, Edzel, you
1',/, ' first type SY EDZEL. If the system responds with Edzel's jo
2b',/, ' number, you know he is on the net, and can now type TALK TO
3 EDZEL.',/, ' Give it a try:',/, ' @',#)
140 FORMAT(' What you should have typed was: TALK TO EDZEL <CR>',/)
200 FORMAT(' If you are Edzel, toiling diligently away at your VDT, yo
1u',/, ' will see (and do) the following:',/, ' ..the derivative of
2aquaLINK FROM <YOUR FRIEND>',/, ' ^c',/, ' !HI..WANNA GET TOGETHER
3ABOUT 1630 TO DISCUSS TOMORROW'S BRIEFING?',/, ' ;Sure...meet you
4in the Rat's Nest!',/, ' !ROG, SEE YOU THERE. BYE.',/, ' @ break',/
5/,

```

```

7' Did you notice that both parties typed either a ! or ; to cause
*the system to',/,
8' send the line?',/,/,
9' Invoking the CONTINUE command at this point will place you back
*to where you',/,
1' were prior to the link. Such as:',/,/,
2' @continue',/,/, ' ..the derivative of squar',/,/,
3' You can then use a ^R to get the entire line to reprint.',/,/,
4' This concludes the demonstration of TALK/LINK.',/,/,
5' Remember to use the "?" any time you are not quite sure what the
* system is',/,/, ' asking for.',/,/)
205  FORMAT(3A5)
210  FORMAT(1A1)
300  FORMAT('/// NO. TRY AGAIN.',/)
310  FORMAT('/// YOU STILL BLEW IT.',/)
320  FORMAT('/// CARE TO TRY AGAIN (Y OR N)? ',s)
340  FORMAT(' Sorry to see you quit early. Goodbye.',/)
350  FORMAT(' PRESS ANY KEY . . .',/)
1600 FORMAT(////)
      END
C
C

```

```

C
C
SUBROUTINE AMSG(DUM)
C
C *****MSG SUBROUTINE*****
C - THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE "MSG" MESSAGE -
C - PROCESSOR -
C *****
C
C DIMENSION INPUT(1),DEM1(1),DEM2(2),DEM3(3),DEM7(7)
C
C ***** INTRODUCTION TO MSG
C
C TYPE 1600
C TYPE 1000
C TYPE 1300
C READ(05,1400,ERR=10) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C ***** MSG COMMAND LEVEL COMMANDS
C
C 10 TYPE 1010
C TYPE 1300
C READ(05,1400,ERR=15) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C 15 TYPE 1020
C TYPE 1300
C READ(05,1400,ERR=20) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C ***** COMMANDS WITHIN MESSAGE PREPARATION
C
C 20 TYPE 1030
C TYPE 1300
C READ(05,1400,ERR=21) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C 21 TYPE 1035
C TYPE 1300
C READ(05,1400,ERR=22) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C ***** SEND, QUEUE OR ?
C
C 22 TYPE 1038
C TYPE 1320
C READ(05,1400,ERR=25) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C ***** DEMO - ENTRY INTO MSG

```

```

C
25  NUM=0
30  TYPE 1040
32  READ(05,1410,ERR=30) DEM1
    TYPE 1600
    IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
    IF(DEM1(1).EQ.'MSG'.OR.DEM1(1).EQ.'msg')GO TO 50
    NUM=NUM+1
    GO TO (35,40,45) NUM
35  TYPE 1340
    TYPE 1500
    GO TO 32
40  TYPE 1350
    TYPE 1500
    GO TO 32
45  TYPE 1045
    TYPE 1360
    READ(05,1400,ERR=45) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 25

C
C    **** DEMO - SEND
C
50  NUM=0
55  TYPE 1050
57  READ(05,1400,ERR=55) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'S'.OR.INPUT(1).EQ.'s')GO TO 75
    NUM=NUM+1
    GO TO (60,65,70) NUM
60  TYPE 1340
    TYPE 1505
    GO TO 57
65  TYPE 1350
    TYPE 1505
    GO TO 57
70  TYPE 1055
    TYPE 1360
    READ(05,1400,ERR=70) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 50

C
C    **** DEMO - CONFIRMATION
C
75  NUM=0
80  TYPE 1060
82  READ(05,1400,ERR=80) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 100
    NUM=NUM+1
    GO TO (85,90,95) NUM

```



```

85  TYPE 1340
    TYPE 1510
    GO TO 82
90  TYPE 1350
    TYPE 1510
    GO TO 82
95  TYPE 1065
    TYPE 1360
    READ(05,1400,ERR=95) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 75
C
C    **** DEMO - MESSAGE PREPARATION "TO"
C
100 NUM=0
105 TYPE 1070
107 READ(05,1450,ERR=105) DEM2
    TYPE 1600
    IF(DEM2(1).EQ.'Q'.OR.DEM2(1).EQ.'q')GO TO 520
    IF(DEM2(1).EQ.'JONES'.AND.DEM2(2).EQ.'KF'.OR.DEM2(1).EQ.'jones'.AN
    *D.DEM2(2).EQ.'kf')GO TO 125
    NUM=NUM+1
    GO TO (110,115,120) NUM
110 TYPE 1340
    TYPE 1515
    GO TO 107
115 TYPE 1350
    TYPE 1515
    GO TO 107
120 TYPE 1075
    TYPE 1360
    READ(05,1400,ERR=120) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 100
C
C    **** DEMO - MESSAGE PREPARATION "cc"
C
125 NUM=0
130 TYPE 1080
132 READ(05,1450,ERR=130) DEM2
    TYPE 1600
    IF(DEM2(1).EQ.'Q'.OR.DEM2(1).EQ.'q')GO TO 520
    IF(DEM2(1).EQ.'WILLB'.AND.DEM2(2).EQ.'E'.OR.DEM2(1).EQ.'willb'.AND
    *.DEM2(2).EQ.'e')GO TO 150
    NUM=NUM+1
    GO TO (135,140,145) NUM
135 TYPE 1340
    TYPE 1520
    GO TO 132
140 TYPE 1350
    TYPE 1520
    GO TO 132
145 TYPE 1085

```



```

      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 175
C
C     **** DEMO - MESSAGE PREPARATION "QUEUE"
C
200   NUM=0
205   TYPE 1110
207   READ(05,1400,ERR=205) DEM1
      TYPE 1600
      IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 225
      NUM=NUM+1
      GO TO (210,215,220) NUM
210   TYPE 1340
      TYPE 1535
      GO TO 207
215   TYPE 1350
      TYPE 1535
      GO TO 207
220   TYPE 1115
      TYPE 1360
      READ(05,1400,ERR=220) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 200
C
C     **** DEMO T (TYPE) COMMAND
C
225   NUM=0
230   TYPE 1120
237   READ(05,1400,ERR=230) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'T'.OR.INPUT(1).EQ.'t')GO TO 250
232   NUM=NUM+1
      GO TO (235,240,245) NUM
235   TYPE 1340
      TYPE 1505
      GO TO 232
240   TYPE 1350
      TYPE 1505
      GO TO 232
245   TYPE 1125
      TYPE 1360
      READ(05,1400,ERR=245) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 225
C
C     **** DEMO - MESSAGE SEQUENCE COMPLETION (ONE MESSAGE)
C
250   NUM=0
255   TYPE 1130
257   READ(05,1440,ERR=255) DEM1
      TYPE 1600
      IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
      IF(DEM1(1).EQ.'14')GO TO 275

```



```

TYPE 1360
READ(05,1400,ERR=320) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 300
325 NUM=0
330 TYPE 1160
500 TYPE 1240
TYPE 1370
READ(05,1400,ERR=510) INPUT
510 RETURN
520 TYPE 1250
TYPE 1370
READ(05,1400,ERR=530) INPUT
530 RETURN
C
C
C *****FORMATS FOR MSG SUBROUTINE*****
C
C ***** INTRODUCTION
C
1000 FORMAT(' MSG',/,
1' MSG is a program which allows the user to create, send, file and
2 read',/, ' messages (referred to also as mail). A listing below p
3rovides the',/, ' commands which may be used within MSG. They may
4also be seen from',/, ' within MSG by typing a "?" after the "<" a
5ag prompt.',/,
6' The following is a sample message:',/,
7' (msg. # 34, 279 chars)',/,
8' Mail-From: JONESKD created at 16-Oct-85 19:13:01',/,
9' Date: 16 Oct 1985 19:13:01 EDT',/,
' From: JONESKD@USC-ISI.ARPA',/,
1' Subject: REQUESTED INFORMATION',/,
2' To: HIDONJK@USC-ISI.ARPA',/,
3' cc: FLEMMINGPW@USC-ISI.ARPA, JONESKD@USC-ISI.ARPA',/,
4' Thank you very much for your quick response.',/,
5' The message itself is comprised of various fields, or parts. Th
6ey are',/, ' referred to as Date Field, To Field, From Field, Subje
7ct Field, etc.',/, ' Each field is entered separately, allowing the
8 user to view the fields',/, ' separately, such as just listing the
9 subjects of some or all messages.',/)
C
C ***** MSG COMMAND LEVEL COMMANDS
C
1010 FORMAT(' MSG COMMAND LEVEL COMMANDS',/,
' COMMAND Use',/,
1' A Answer a message',/,
2' B Back up to previous message',/,
3' ^ Back up to previous message',/,
4' ^H Back up to previous message',/,
5' C Current message',/,
6' D Delete a message',/,
7' E Exit and update message file',/,
9' F Forward a message',/,
' G Go to message number',/,

```

```

1' H      Headers',/,
2' I      Inclusion of length of header',/,
3' J      Jump into lower fork',/,
4' K      Koncise - provide shorter prompting',/,
5' L      List of messages',/,
6' M      Move a message into a file (deletes it as a message)',/,
7' N      Next message number',/,
8' O      Overwrite old file',/)
1020 FORMAT(' COMMAND USE',/,
1' P      Put a message into a file (leaves it as a message also)',
2',/,
3' Q      Quit - return to operating system without update of msg
4file',/,
4' R      Read in a file',/,
5' S      Send a message',/,
6' T      Type a message',/,
7' U      Undelete a message',/,
8' V      Verbose - provides more prompting',/,
9' W      Write file sorted by message arrival time',/,
*' X      XED - enter XED',/,
1' Z      Zap profile',/,
2' ''      Marks message as examined',/,
3' -      Marks message as not examined',/,
4'      (system tells you upon entry if you have "not-examined a
5messages")',/,
7' :      display current time and date',/,
8' ?      Type the command character for its description, ? alone
9for summary',/,
*' ;      Comment',/,
1' ^N     Abort message',/,
2' ^Z     Message completion',/)

```

C  
C  
C

\*\*\*\* COMMANDS WITHIN MESSAGE SEQUENCE

```

1030 FORMAT(' COMMANDS WITHIN MESSAGE SEQUENCE:',/,
1' If you ask the system to type out a message (T type) or output h
2eaders',/,
3' (H headers), etc. the system will ask you for the message sequen
4ce.',/, ' Usually, all you desire is one message, so you just type
5that message',/, ' number followed by a carriage return. In some i
6stances you may desire',/,
7' to have more than one, possibly a string of message headers or t
8wo ',/, ' different messages. The following describes the procedur
9es for various',/, ' means of answering the <Message Sequence> pro
*pt.',/,
1' 1. Any single number',/,
2' 2. Message number range (ie number <separator> number, where se
3parator',/, ' is one of the following:',/,
4' COMMAND USE',/,
5' > greater than (>20 = output msgs with number greater t
6han 20)',/,
7' : through (15:20 = msgs 15 through 20)',/,
8' (20:15 = same msgs, but in inverse order
9)',/,
1035 FORMAT(' COMMAND USE',/,

```

```

*      ,      msgz stated (24,7 = msg 24 followed by msg 7)',/,
4'      ESC   current message',/,
5'      ^I    last sequence specified',/,
6'      A      All messages or headers',/,
7'      D      Deleted messages or headers',/,
8'      E      Examined messages',/,
9'      F      string search of headers',/,
*      L      Last message sequence',/,
1'      N      Not examined (not seen) messages',/,
2'      I      Inverse order',/,
3'      O      Old messages/headers',/,
4'      R      Recent messages only',/,
5'      S      string search of subject',/,
6'      U      Undeleted messages',/)

C
C      **** SEND, QUEUE OR ?
C
1038  FORMAT(' SEND, QUEUE OR ? ',/,/,
1'      After you have completed typing the body of a message, which
2you have',/,,' signaled to the system with a "^Z", the system will
3prompt you with a ',/,,' "QUEUE, SEND or ?". This is asking if you
4want the message sent (do it',/,,' now while I wait), queued (do i
5t at the systems convenience) or ? ',/,,' (provides help).',/)

C
C      **** DEMO - ENTERING XED
C
1040  FORMAT(' NOTE: YOU MAY QUIT THE FOLLOWING DEMONSTRATION AT ANY TI
1ME, SIMPLY BY',/,,' TYPING A "Q" FOLLOWED BY A CARRIAGE RETURN, IN
2REPLY TO ANY OF THE PROMPTS.',/,/,
*      ' OK. Here we go. First off, we need to get from the Exec
lutive Command level',/,,' to the MSG command level. To do this, we
2type MSG after the "@" prompt',/,,' followed by a <CR>. Give it
3a try.',/,/,
4' See the XED portion of this tutorial for the editing commands, t
hey work here',/,/,
5' as well.',/,/,,' @',s)
1045  FORMAT(' What you should have typed, was:  MSG <CR>',/,/)

C
C      **** DEMO - SEND
C
1050  FORMAT('      MSG -- version of 07 Sep 1983',/,/,
1'      Type ? for help, ? # for news',/,/,
2'      No new messages since file was last read on 15-Nov-85 05:16:
339.',/,,' There are 23 old messages.',/,/,
*      The file is 26 disk pages long.',/,/,,' <- ',/,/,
1' This puts us at the MSG command level prompt.',/,/,
2' Now we have a choice. We could read (T - type), send a message
3(S - sendmsg)',/,,' answer a message (A - answer) etc. (see availab
4le commands above). First',/,,' let's give a try at preparing an
5d sending a message.',/,/,
6' (Note: During this simulation it is necessary to type a carriag
7e return',/,,' after your entry).',/,/,
8' To begin, we type an "S <CR>" after the prompt to enter the mess
9age send',/,,' routine. Give it a try.',/,/,,' <- ',s)
1055  FORMAT(' What you should have typed, was:  S <CR>',/,/)

```

```

C
C      **** DEMO - CONFIRMATION
C
1060 FORMAT(' <- Sndmsg [confirml',,,,
      1' At this point you enter a "Y<CR>" to confirml, or a "N<CR>" to ca
      2ncell.',,,, <- sndmsg [confirml',S)
1065 FORMAT(' What you should have typed, was: Y<CR>',,,,
C
C      **** DEMO - TO
C
1070 FORMAT(' [ If you wish to abort back to MSG, type control-N]',,,,
      1' To (? for help): ',,,,
      2' The system is now asking for you to enter the addressee of your
      3message.',,,, Send it to JONESKF',,,, To (? for help): ',S)
1075 FORMAT(' What you should have typed, was: JONESKF<CR>',,,,
C
C      **** DEMO - CC
C
1080 FORMAT(' cc (? for help): ',,,,
      1' The system is now asking who you would like carbon copies (cc) s
      2ent to.',,,, Send a copy to WILLBE and to yourself (it is usually
      3considered a good',,,, idea to retain a copy for yourself).',,,,
      4cc (? for help) : ',S)
1085 FORMAT(' What you should have typed was: WILLBE, (YOUR ACCOUNT NAM
      1E)<CR>',,,,
C
C      **** DEMO - SUBJECT
C
1090 FORMAT(' Subject:',,,,
      1' The system is now asking for a subject line for your message. L
      2et's give',,,, the message the subject of "PASCAL".',,,, Subject
      3: ',S)
1095 FORMAT(' What you should have typed, was: PASCAL<CR>',,,,
C
C      **** DEMO - MESSAGE
C
1100 FORMAT(' Message (? for help): ',,,,
      1' The system is now asking you to input your message. Upon comple
      2tion of',,,, entering your message, you enter a ^Z (control-Z). S
      3imulate it here by',,,, typing a "^Z<CR>". Try entering the follo
      4wing message: What pascal',,,, languages are available on the top
      5s-20 system.',,,, Message (? for help) : ',S)
1105 FORMAT(' What you should have typed, was:',,,,
      1' WHAT PASCAL LANGUAGES ARE AVAILABLE ON THE TOPS-20 SYSTEM^Z',,,,
C
C      **** DEMO - QUEUE
C
1110 FORMAT(' Q,S,?,carriage return:',,,,
      1' You are being asked whether you desire to wait while the message
      2 is being',,,, sent (S), or to have the system process it at its c
      3onvenience while you',,,, are free to continue with something else
      4. Tell the system to queue (Q).',,,, Q,S,?, carriage return:',S)
1115 FORMAT(' What you should have typed, was: Q<CR>',,,,
C
C      **** DEMO - TYPE

```



```

C
1120 FORMAT(' Q,S?,carriage return: Queue',/,
1' JONESKF -- queued',/, WILLBE -- queued',/, (your account)
2-- queued',/, <-',/,
3' The system is now processing the message and has given you the M
4SG command',/, level prompt; awaiting your next command. Let's
5read a message. To do so',/, we enter the T (type) command.',/,
6' <- ',S)
1125 FORMAT(' What you should have typed, was: T<CR>',/)
C
C
C
C
C
1130 FORMAT(' <- type (message sequence) ',/,
1' The system is now asking for which message(s) you wish to read.
2 Let's',/, read message 14.',/,
3' <- type (message sequence) ',S)
1135 FORMAT(' What you should have typed, was: 14<CR>',/)
C
C
C
C
1140 FORMAT(' (msg. # 14, 299 chars)',/, Mail -From: ACTION created at
1 16-Oct-85 19:13:01',/,
2' Date: 16 Oct 1985 19:13:01 EDT',/, From: ACTION@USC-ISI.ARPA
3',/, Subject: MSG',/, To: (Your account)',/,
4' A very special file in your Directory is the "MAIL.TXT" file.
5 This file',/, controls your "mailbox", and therefore should nev
6er be deleted.',/,
7' -----',/, That was message 14',/,
8' Please note the significance of the above message.',/,
9' NEVER DELETE THE MAIL.TXT FILE.',/,
10' If we had not remembered the exact message number of this messag
11e, we could',/, have found it with the HEADER command. We could
12do this by looking at all',/, "headers", or if we knew its approx
13imate number we could specify a range of',/, message headers to b
14e outputted by the system. Let's give this a try. First',/, in
15voke the H (header) command.',/, <- ',S)
1145 FORMAT(' What you should have typed, was: H<CR>',/)
C
C
C
C
C
1150 FORMAT(' <- Headers (message sequence) ',/,
1' The system is now asking which headers you wish to see. Tell it
2 10 through',/, 15, since we believe this is where our message of
3 interest lies.',/,
4' <- Headers (message sequence) ',S)
1155 FORMAT(' What you should have typed, was: 10:15<CR>',/)
C
C
C
1160 FORMAT(' 10 15 Aug Remind Daemon WHO WAS FIRST',/,
1' 11 17 Aug Gary Pooch <POOCK@USC- "EYE"dentification',/,
2' 12 5 Sep Tom Brown <BROWNTJ@USC EE MADE SIMPLE FOR C3',/,
3' 13 9 Oct To: FRANKSDZ@USC-ISI.A IF YOU SAY SO',/,
4' 14 16 Oct ACTION MSG',/,
5' 15 17 Oct To: SMITHSL@USC-ISI.AR PROPER ATTIRE',/,
6' From the above we find that the message of interest is number 14
7. Note also',/, the other information presented. We can tell th

```

8at we received messages 10, '.,/, ' 11, and 13 and that we sent messa  
9ges 13 and 15. '.,//)

C

C

C

\*\*\*\* SIGN-OFF ROUTINE

1240 FORMAT(' This completes the tutorial on MSG. Remember to use the  
1"? " any time you',/, ' are not quite sure what the system is asking  
2 for.',//)

1250 FORMAT(' Sorry to see you quit early. Good bye.',//)

1300 FORMAT(' WOULD YOU LIKE TO CONTINUE (Y or N)?',,S)

1320 FORMAT(' WOULD YOU LIKE A DEMONSTRATION OF THE ABOVE COMMANDS (Y o  
1r N)?',,S)

1340 FORMAT(' No. Try again.',//)

1350 FORMAT(' You still don''t have it right.',//)

1360 FORMAT(' CARE TO TRY AGAIN (Y or N)?',,S)

1370 FORMAT(' ENTER ANY KEY TO RETURN TO THE MAIN MENU: ',,S)

1400 FORMAT(1A1)

1410 FORMAT(1A3)

1420 FORMAT(3A5)

1430 FORMAT(7A5)

1440 FORMAT(1A2)

1450 FORMAT(2A5)

1460 FORMAT(1A5)

1500 FORMAT(//, ' @',,S)

1505 FORMAT(//, ' <-',,S)

1510 FORMAT(//, ' <- andmsg [confirm]',,S)

1515 FORMAT(//, ' TO (? for help): ',,S)

1520 FORMAT(//, ' cc (? for help): ',,S)

1525 FORMAT(//, ' subject: ',,S)

1530 FORMAT(//, ' message (? for help): ',,S)

1535 FORMAT(//, ' Q,S,? carriage return ',,S)

1540 FORMAT(//, ' type (message sequence) ',,S)

1545 FORMAT(//, ' headers (message sequence) ',,S)

1600 FORMAT(//,//)

END

C

C



```

GO TO 32
45  TYPE 1045
    TYPE 1360
    TYPE 1600
    READ(05,1400,ERR=45) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 25
C
C  **** DEMONSTRATION OF THE READ COMMAND
C
50  NUM=0
55  TYPE 1050
57  READ(05,1400,ERR=55) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'R'.OR.INPUT(1).EQ.'r')GO TO 75
    NUM=NUM+1
    GO TO (60,65,70) NUM
60  TYPE 1340
    TYPE 1505
    GO TO 57
65  TYPE 1350
    TYPE 1505
    GO TO 57
70  TYPE 1055
    TYPE 1360
    READ(05,1400,ERR=70) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 50
C
C  **** DEMONSTRATION OF READING IN A FILE
C
75  NUM=0
80  TYPE 1060
82  READ(05,1420,ERR=80) DEM3
    TYPE 1600
    IF(DEM3(1).EQ.'Q'.OR.DEM3(1).EQ.'q')GO TO 520
    IF(DEM3(1).EQ.'INVIS'.AND.DEM3(2).EQ.'IBLE'.AND.DEM3(3).EQ.'.1'.O
1R.DEM3(1).EQ.'invis'.AND.DEM3(2).EQ.'.ible'.AND.DEM3(3).EQ.'.1')GO
2 TO 100
    NUM=NUM+1
    GO TO (85,90,95) NUM
85  TYPE 1340
    TYPE 1510
    GO TO 82
90  TYPE 1350
    TYPE 1510
    GO TO 82
95  TYPE 1065
    TYPE 1360
    READ(05,1400,ERR=95) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520

```

```

IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 75
C
C **** DEMONSTRATION OF THE LIST COMMAND
C
100 NUM=0
105 TYPE 1070
107 READ(05,1400,ERR=105) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'L'.OR.INPUT(1).EQ.'l')GO TO 125
NUM=NUM+1
GO TO (110,115,120) NUM
110 TYPE 1340
TYPE 1515
GO TO 107
115 TYPE 1350
TYPE 1515
GO TO 107
120 TYPE 1075
TYPE 1360
READ(05,1400,ERR=120) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 100
C
C **** DEMONSTRATION OF THE VIEW COMMAND
C
125 NUM=0
130 TYPE 1080
132 READ(05,1400,ERR=130) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'V'.OR.INPUT(1).EQ.'v')GO TO 150
NUM=NUM+1
GO TO (135,140,145) NUM
135 TYPE 1340
TYPE 1515
GO TO 132
140 TYPE 1350
TYPE 1515
GO TO 132
145 TYPE 1085
TYPE 1360
READ(05,1400,ERR=145) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 125
C
C **** DEMONSTRATION OF THE INSERT COMMAND
C
150 NUM=0
155 TYPE 1090
157 READ(05,1400,ERR=155) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520

```

```

      IF(INPUT(1).EQ.'I'.OR.INPUT(1).EQ.'i')GO TO 175
      NUM=NUM+1
      GO TO (160,165,170) NUM
160   TYPE 1340
      TYPE 1520
      GO TO 157
165   TYPE 1350
      TYPE 1520
      GO TO 157
170   TYPE 1095
      TYPE 1360
      READ(05,1400,ERR=170) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 150
C
C     **** DEMONSTRATION OF INSERTING MATERIAL
C
175   NUM=0
180   TYPE 1100
182   READ(05,1430,ERR=180) DEM7
      TYPE 1600
      IF(DEM7(1).EQ.'Q'.OR.DEM7(1).EQ.'q')GO TO 520
      IF(DEM7(1).EQ.'use t'.AND.DEM7(2).EQ.'he "S'.AND.DEM7(3).EQ.'ET FI
1' .AND.DEM7(4).EQ.'LE VI'.AND.DEM7(5).EQ.'SIBLE'.AND.DEM7(6).EQ.'
2com'.AND.DEM7(7).EQ.'mand.')GO TO 200
      NUM=NUM+1
      GO TO (185,190,195) NUM
185   TYPE 1340
      TYPE 1525
      GO TO 182
190   TYPE 1350
      TYPE 1525
      GO TO 182
195   TYPE 1105
      TYPE 1360
      READ(05,1400,ERR=195) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 175
C
C     **** DEMONSTRATION OF END OF FILE COMMAND
C
200   NUM=0
205   TYPE 1110
207   READ(05,1440,ERR=205) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Z'.OR.INPUT(1).EQ.'z')GO TO 225
      NUM=NUM+1
      GO TO (210,215,220) NUM
210   TYPE 1340
      TYPE 1530
      GO TO 207
215   TYPE 1350

```

```

      TYPE 1530
      GO TO 207
220   TYPE 1115
      TYPE 1360
      READ(05,1400,ERR=220) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 200
C
C     **** DEMONSTRATION OF KILL COMMAND
C
225   NUM=0
230   TYPE 1120
231   READ(05,1400,ERR=230) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).NE.'K'.AND.INPUT(1).NE.'k')GO TO 232
      TYPE 1123
      READ(05,1400,ERR=230) INPUT
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'1'.OR.INPUT(1).EQ.'')GO TO 250
232   NUM=NUM+1
      GO TO (235,240,245) NUM
235   TYPE 1340
      TYPE 1535
      GO TO 231
240   TYPE 1350
      TYPE 1535
      GO TO 232
245   TYPE 1125
      TYPE 1360
      READ(05,1400,ERR=245) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 225
C
C     **** DEMONSTRATION OF THE WRITE COMMAND
C
250   NUM=0
255   TYPE 1130
257   READ(05,1400,ERR=255) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'W'.OR.INPUT(1).EQ.'w')GO TO 275
      NUM=NUM+1
      GO TO (260,265,270) NUM
260   TYPE 1340
      TYPE 1505
      GO TO 257
265   TYPE 1350
      TYPE 1505
      GO TO 257
270   TYPE 1135
      TYPE 1360
      READ(05,1400,ERR=270) INPUT

```





```

332 READ(05,1400,ERR=330) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'A'.OR.INPUT(1).EQ.'a')GO TO 350
    NUM=NUM+1
    GO TO (335,340,345) NUM
335 TYPE 1340
    TYPE 1515
    GO TO 332
340 TYPE 1350
    TYPE 1515
    GO TO 332
345 TYPE 1165
    TYPE 1360
    READ(05,1400,ERR=345) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 325
C
C ***** DEMONSTRATION OF KILLING MORE THAN ONE LINE
C
350 NUM=0
355 TYPE 1170
356 READ(05,1440,ERR=355) DEM1
    TYPE 1600
    IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
    IF(DEM1(1).NE.'3K'.AND.DEM1(1).NE.'3k')GO TO 357
    TYPE 1173
    READ(05,1400,ERR=355) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'1'.OR.INPUT(1).EQ.' ')GO TO 375
357 NUM=NUM+1
    GO TO (360,365,370) NUM
360 TYPE 1340
    TYPE 1515
    GO TO 356
365 TYPE 1350
    TYPE 1515
    GO TO 356
370 TYPE 1175
    TYPE 1360
    READ(05,1400,ERR=370) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 350
C
C ***** DEMONSTRATION OF THE JAM COMMAND
C
375 NUM=0
380 TYPE 1180
382 READ(05,1440,ERR=380) DEM1
    TYPE 1600
    IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
    IF(DEM1(1).EQ.'3J'.OR.DEM1(1).EQ.'J'.OR.DEM1(1).EQ.'3j'.OR.DEM1(1)

```

```

1.EQ.'j')GO TO 400
NUM=NUM+1
GO TO (385,390,395) NUM
385 TYPE 1340
TYPE 1545
GO TO 382
390 TYPE 1350
TYPE 1545
GO TO 382
395 TYPE 1185
TYPE 1360
READ(05,1400,ERR=395) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 375
C
C **** DEMONSTRATION OF TYPING OTHER THAN CURRENT LINE
C
400 NUM=0
405 TYPE 1190
407 READ(05,1440,ERR=405) DEM1
TYPE 1600
IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
IF(DEM1(1).EQ.'3T'.OR.DEM1(1).EQ.'3t')GO TO 425
NUM=NUM+1
GO TO (410,415,420) NUM
410 TYPE 1340
TYPE 1515
GO TO 407
415 TYPE 1350
TYPE 1515
GO TO 407
420 TYPE 1195
TYPE 1360
READ(05,1400,ERR=420) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 400
C
C **** DEMONSTRATION OF TYPING MORE THAN ONE LINE
C
425 NUM=0
430 TYPE 1200
432 READ(05,1400,ERR=430) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'2')GO TO 450
NUM=NUM+1
GO TO (435,440,445) NUM
435 TYPE 1340
TYPE 1550
GO TO 432
440 TYPE 1350
TYPE 1550
GO TO 432

```

```

445  TYPE 1205
      TYPE 1360
      READ(05,1400,ERR=445) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 425
C
C      **** DEMONSTRATION OF THE EXIT COMMAND
C
450  NUM=0
455  TYPE 1210
457  READ(05,1400,ERR=455) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'E'.OR.INPUT(1).EQ.'e')GO TO 475
      NUM=NUM+1
      GO TO (460,465,470) NUM
460  TYPE 1340
      TYPE 1505
      GO TO 457
465  TYPE 1350
      TYPE 1505
      GO TO 457
470  TYPE 1215
      TYPE 1360
      READ(05,1400,ERR=470) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 450
C
C      **** DEMONSTRATION OF FILE STORAGE BEFORE EXITING
C
475  NUM=0
480  TYPE 1220
482  READ(05,1450,ERR=480) DEM2
      TYPE 1600
      IF(DEM2(1).EQ.'Q'.OR.DEM2(1).EQ.'q')GO TO 520
      IF(DEM2(1).EQ.'INFO.'.AND.DEM2(2).EQ.'FILE'.OR.DEM2(1).EQ.'info.'
1.AND.DEM2(2).EQ.'file')GO TO 499
      NUM=NUM+1
      GO TO (485,490,495) NUM
485  TYPE 1340
      TYPE 1540
      GO TO 482
490  TYPE 1350
      TYPE 1540
      GO TO 482
495  TYPE 1225
      TYPE 1360
      READ(05,1400,ERR=495) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 475
499  TYPE 1230
C

```

```

C      **** SIGN-OFF ROUTINE
C
500    TYPE 1240
      TYPE 1370
      READ(05,1400,ERR=510) INPUT
510    RETURN
520    TYPE 1250
      TYPE 1370
      READ(05,1400,ERR=530) INPUT
530    RETURN
C
C
C      *****FORMATS FOR XED SUBROUTINE*****
C
C      **** INTRODUCTION
C
1000   FORMAT('
1' XED is a text editor; specifically a line editor. It allows you
2 to both',/,,' create and edit text, one line at a time. Entry int
3o XED is by typing XED',/,,' after the "@" prompt, followed by a <C
4R>.',/,,' Definitions:',/,,'
5' Text Buffer - The text buffer is your current working space.'
6,/,,'
7' Print Buffer - The area where material you have "KILL"ed is
8 placed. Note,',/,,' only the material from the L
9AST KILL operation is retained.',/,,'
*' Command Level - The level you are at when you enter XED; distin
guishable by',/,,' the ":" prompt.',/,,'
2' Line Number - Line numbers are assigned by XED to each line i
3n your text',/,,' buffer, starting with line numbe
4r one. The numbers are for',/,,' reference while
5within XED and are not stored into the file.',/,,'
C
C      **** XED COMMAND LEVEL COMMANDS
C
1010   FORMAT(' XED COMMAND LEVEL COMMANDS',/,,'
*' COMMAND      USES (s)',/,,'
1' A - APPEND    To enter text after the current line.',/,,'
2' B - BACK UP   Create back up file.',/,,'
3' C - CHANGE    To modify current lines.',/,,'
4' E - EXIT      Exits XED, after file save, back to system le
5vel.',/,,' F - FIND    Locates a specific letter, word or ph
6rase.',/,,'
7' G - GROUP     Joins current line with following line.',/,,'
8' I - INSERT    Inserts text before current line.',/,,'
9' J - JAM       Jams the contents of Print Dump after the cur
*rent line.',/,,'
1' K - KILL      Places current or specified line (s) into Pri
2nt Dump.',/,,'
3' L - LIST      Outputs entire text buffer without line numbe
4rs.',/,,'
5' P - PRINT DUMP Prints contents of Print Dump. ',/,,'
6' Q - QUIT      Quits XED, without file save, back to system
7level.',/,,'
8' R - READ      Reads into XED the contents of a file.',/,,'

```

```

9' S - SEARCH Like Find except it looks for all occurrences
*.,//)
C
1020 FORMAT(' COMMAND USE',//,
1' T - TYPE Types out current line.',//,
2' V - VIEW Displays the current and following 15 lines.'
3',//,
4' W - WRITE Writes current contents of text buffer to fil
5e.',//,
6' X - EXCHANGE Searches for specific text and replaces it wi
7th another.',//, 2 - ZAP Puts your entire file into the
8 Print Dump.',//,
9' ' - SWITCH DUMP Swaps contents of the Print and Text Buffers
*.,//,
1' ' - TYPE CONXTX Types current line and five lines before and
2after.',//,
3' / - TYPE Types the current line.',//,
4' x - SNDMSG Utilizes current text buffer as body of messa
5ge.',//,
6' s - LAST LINE Moves you to the last line of the file.',//,
7' ? - COMMANDS Displays available commands.',//,
8' ^J - TYPE Types the next line.',//,
9' ^Q - ABORT Aborts partially completed commands.',//,
* - FORMAT Right justifies paragraph.',//)
C
C
C **** COMMANDS WITHIN INSERT AND APPEND
C
1030 FORMAT(' COMMANDS WITHIN INSERT OR APPEND:',//,
1' COMMAND USE',//,
2' (DEL KEY) Deletes the letter to the left of the cursor.
3',//,
4' ^R - RETYPE Retype the current line, leaving cursor at th
5e end.',//,
6' ^X - KILL LINE Kills the line to the left of the cursor.',//,
7' ^W - DELETE WORD Deletes the word to the left of the cursor.',
8',//,
9' ^Z - RETURN Returns you to the command level.',//,
* COMMANDS WITHIN CHANGE:',//,
1' S - SKIP Skips to a specified character.',//,
2' D - DELETE Deletes the character over the cursor.',//,
3' I - INSERT Inserts characters.',//,
4' E - END Moves cursor to end of line.',//,
5' ^D - ABORT Aborts any changes you have made.',//,
6' ? - COMMANDS Types out available commands.',//,
7' B - BREAK Breaks line in two at cursor position.',//,
8' <CR> - RETURN Return to XED command level.',//)
C
C
C **** DEMO - ENTRY INTO XED
C
1040 FORMAT(' NOTE: YOU MAY QUIT THE FOLLOWING DEMONSTRATION AT ANY TI
ME, SIMPLY BY',//, ' TYPING A "Q" FOLLOWED BY A CARRIAGE RETURN, IN
2REPLY TO ANY OF THE PROMPTS.',//,
* ' OK. Here we go. First off, we need to get from the Exec
lutive Command level',//, ' to the XED command level. To do this, we
2 type XED after the "@" prompt.',//, ' followed by a <CR>. Give it

```

```

3a try.',/,,' @',s)
1045 FORMAT(' What you should have typed, was:   XED <CR>',/)
C
C   **** DEMO - THE R (READ) COMMAND
C
1050 FORMAT(' XED Version 4.2 (30-Aug-82)',/,,' :',/,/,
1' This puts us at the XED command level prompt.',/,/,
2' Now we have a choice.  We can begin entering text  for a new f
3ile or we can',/,/,
4' edit text from an existing file.  First let's try editing an
5existing file.',/,/,
6' To bring in the existing file, we type an  "R" after the prompt.
7  (Note that',/,/,
8' during this simulation, you will need to type a  <CR> after ente
9ring the first',/,/,
*' letter of each command.  In XED itself, this is not required).
1So now we type',/,/,
2' "R <CR>" after the  ":"  prompt.  The system will respond by
3completing the',/,/,
4' command and then  asking you what file you wish to insert.  Le
5t's give it a',/,/,
6' try.',/,,' :',s)
1055 FORMAT(' What you should have typed, was:   R <CR>',/)
C
C   **** READING IN A FILE
C
1060 FORMAT(' read',/,,' Input File:',/,/,
1' At this point you type in the "FileName.FileType.FileNumber" of
2the file',/,,' you wish to edit.  Let's edit "INVIS.IBLE.1".',/,/,
3' Input File:',s)
1065 FORMAT(' What you should have typed, was:   INVIS.IBLE.1 <CR>',/)
C
C   **** DEMO - THE L (LIST) COMMAND
C
1070 FORMAT(' 8 LINES',/,,' 1:',/,/,
1' From the above, we see that the file has been read into the text
2 buffer, is',/,/,
3' eight lines in length and the current line is line 1.  Now we wi
4sh to take a',/,/,
5' look at this file.  Two of the commands we can use to do this ar
6e the "VIEW"',/,/,
*' and "LIST" commands.  Give the "LIST" command a try.',/,/,
6' REMEMBER: ONLY TYPE IN THE FIRST LETTER FOLLOWED BY A <CR>.',/,/
7/,,' 1:',s)
1075 FORMAT(' What you should have typed, was:   L <CR>',/)
C
C   **** DEMO - THE V (VIEW) COMMAND
C
1080 FORMAT(' list',/,,' INVISIBLE:',/,/,
1' Files that have been marked requesting archival are said to be "
2INVISIBLE"',/,/,,' meaning that these filenames will not show up in
3the usual @ Directory',/,,' listing unless a special subcommand is
4given: @@invisible(files only).',/,,' Note:  Although a file does
5not show up in the regular directory listing, ',/,,' it is still in
6 your directory and will not really go away until the Archive',/,,'

```



```

1120 FORMAT(' 9:',/,
1' Remember that what we have just done is insert a new line eight
2t. That means',/, ' that the old line eight has become the new line
3e nine. However, we no longer',/,
4' want this line at all. To get rid of it we use the KILL command
5. To KILL',/, ' line 9, we start by ensuring that line nine is the
6 current line, which in',/, ' fact it is. If we were not sure, we
7 would type a "9 <CR>", which would make',/, ' line 9 the current line
8ne. To KILL two lines, we type the K after the ":"',/, ' prompt, line
9et the system respond with "ill", and then type the number "1",',/,
', ' indicating that we wish to KILL one line. Note: the default for
1r the KILL',/, ' command is "1", therefore it need not be typed. 0
2K. Get rid of line 9.',/,/, ' 9:',/,)
1123 FORMAT(/, ' 9:Kill ',/,)
1125 FORMAT(' What you should have typed, was one of the following:',/,
1, ' K <CR> followed by a 1 or blank and a <CR> or',/,
2' k <CR> followed by a 1 or blank and a <CR>.',/,)
C
C      **** - THE W (WRITE) COMMAND
C
1130 FORMAT(' 8:',/,/,
1' The above indicates that you have "KILL"ed line 9. Did you realize
2t that',/, ' there were four possible ways you could have given the
3he "KILL" command in',/, ' this case? Specifically, they are:',/,
4'      9KILL1      KILL1      9KILL      KILL',/,/,
5' Now that we are done with this file, we wish to save it, but do
6not wish',/, ' to leave XED. Therefore, we use the WRITE command.
7 Go ahead.',/,/, ' :',/,)
1135 FORMAT(' What you should have typed, was: W <CR>',/,)
C
C      **** - WRITING TO A FILE
C
1140 FORMAT(' write',/,/,
1' Output File:',/,/,
2' We are being asked for the file we wish the material in the text
3 buffer',/, ' to be written. Send it to INVISIBLE',/,/,
4' Output File:',/,)
1145 FORMAT(' What you should have typed, was: INVISIBLE <CR>',/,)
C
C      **** DEMO - THE Z (ZAP) COMMAND
C
1150 FORMAT(' INVISIBLE.2',/,/, ' 8 lines',/,/, ' :',/,/,
1' The system has filed the material for use, yet left us both with
2in XED and',/, ' within the file we were editing. Note that the system
3s has given this file',/, ' a file number of "2", indicating that
4t there was one previous file by the',/, ' same Name and Type.',/,/,
1' Now let's say we are finished with this file but wish to enter
2material into',/, ' another file. We could use the QUIT or EXIT commands,
3but then we would have',/, ' to re-enter XED. It's much easier,
4and timelier, to just "ZAP" the material',/, ' in the text
5buffer (ie KILL it). Give it a shot!',/,/, ' :',/,)
1155 FORMAT(' What you should have typed, was: Z <CR>',/,)
C
C      **** DEMO - THE A (APPEND) COMMAND
C

```



```

1160 FORMAT(' zap',/,/,
1' Good! Now we have an empty text buffer. Let's try entering so
2me original',/,/, text. This time use APPEND to get into the text
3entry mode.',/,/, 1:',$)
1165 FORMAT(' What you should have typed, was: A <CR>',/,/)
C
C **** DEMO - ENTERING TEXT
C
1170 FORMAT(' append',/,/, 1:',/,/,
1' Now we are ready to enter text. Let me do you a favor and enter
2 some for you.',/,/, Note how at the end of a line, I type a <CR> a
3nd the system provides the next',/,/, line number for us.',/,/,
4' 1*This tutorial does not explicitly cover a few of the commands,
5 such as FIND',/,/, 2*GROUP, and SEARCH. You should be able to fi
6gure these out for yourself, if',/,/, 3*with. Do this from the XED
7 command level - ie at the ":" prompt.',/,/, 4*not, try the HELP co
8mand. That is, type H and the command you need help',/,/,
9' Looks like I got the order of the last two lines mixed up! How
*do we fix',/,/, this? Easy, we can KILL line three, this will put
1the contents of line three',/,/, into the Print Buffer and line fou
2r will become line three. Then we ensure',/,/, that line 3 is the
3current line and JAM the contents of the Print Buffer back',/,/, in
4to the text buffer. Remember, the JAM command works like the APPE
5ND command',/,/,
6' it places the material in the line AFTER the current line. Go a
7head and KILL',/,/,
8' line 3.',/,/, 1:',$)
1173 FORMAT(/,/, 1:kill ',$)
1175 FORMAT(' What you should have typed, was:',/,/, 3K <CR> <CR> or 3K
1<CR> 1 <CR>',/,/)
C
C **** DEMO - THE J (JAM) COMMAND
C
1180 FORMAT(' 3:',/,/,
1' Now go ahead and JAM in the material from the print buffer.',/,/,
2' 3:',$)
1185 FORMAT(' What you should have typed, was: 3J <CR> or J <CR>',/,/)
C
C **** DEMO - THE T (TYPE) COMMAND
C
1190 FORMAT(' jam',/,/,
1' 4*with. Do this from the XED command level - ie at the ":" prom
2pt.',/,/,
3' Very good! Now let's see if we got it right by typing out line
4s three and',/,/, four. This can be done by using the VIEW command
5, the LIST command or the',/,/, TYPE command. Similarly, the TYPE
6command can be used to type out each line',/,/, separately or both
7together. To type them both, we first specify the "current',/,/, 1
8ine number" (3) then issue the TYPE command (T) and then the numbe
9r of lines',/,/, we wish typed (2). Give it a try.',/,/, 1:',$)
1195 FORMAT(' What you should have typed, was: 3T <CR>',/,/)
1200 FORMAT(/,/, 1:3type ',$)
1205 FORMAT(' What you should have typed, was: 2 <CR>',/,/)
C
C **** DEMO - THE E (EXIT) COMMAND

```

```

C
1210 FORMAT(' 3*not, try the HELP command. That is, type H and the com
mand you need help',/, ' 4*with. Do this from the XED command leve
21 - ie at the ":" prompt.',/,
3' Now that we have things the way we want them, we're done. Note
4 quit',/, ' though. If we issue the QUIT command at this point, we
5 will leave XED as',/, ' desired, but we will also loose the materi
6al. We either need to first WRITE',/,
7' the contents into a file and then quit, or use the EXIT command.
8 The EXIT',/, ' command allows us to write what is currently in th
9e text buffer into a file',/, ' before releasing us from XED. (Not
e: You could also use the ^C command.',/,
1' This will take you to the Executive level, but you would lose th
e material in',/,
2' the text buffer, unless your next command is CONTINUE. This wil
l place you',/,
' back at the point you were at). To use the EXIT command, we typ
e the "E"',/,
3' at the XED command level prompt. Go ahead.',/, ' :',s)
1215 FORMAT(' What you should have typed, was: E <CR>',/)
C
C      **** DEMO - WRITING TO A FILE (WITH EXIT)
C
1220 FORMAT(' exit',/, ' Output File:',/,
1' See! The system needs the name of the file to store the materia
21. Store',/, ' it in the Info.file',/, ' Output File:',s)
1225 FORMAT(' What you should have typed, was: INFO.FILE <CR>',/)
C
C      **** COMPLETION
C
1230 FORMAT(' INFO.FILE.1 !New Generation!',/, ' 4 lines',/, ' @',/,
1' The system has stored the material for you and placed you back a
2t the Executive',/, ' level.',/)
C
C      **** SIGN-OFF ROUTINE
C
1240 FORMAT(' This concludes the XED portion of this tutorial. Remembe
1r to use the "?" to',/, ' find the available command, and "HELP Com
2mand Name" to find out how to use a',/, ' particular command.',/)
1250 FORMAT(' SORRY YOU HAVE A HOT DATE AND HAVE TO LEAVE SO SOON.',/)
1300 FORMAT(' WOULD YOU LIKE TO CONTINUE (Y or N)?',s)
1320 FORMAT(' WOULD YOU LIKE A DEMONSTRATION OF THE ABOVE COMMANDS (Y o
1r N)?',s)
1340 FORMAT(' No. Try again.',/)
1350 FORMAT(' You still don't have it right.',/)
1360 FORMAT(' CARE TO TRY AGAIN (Y or N)?',s)
1370 FORMAT(' ENTER ANY CHARACTER TO RETURN TO THE MAIN MENU: ',s)
1400 FORMAT(1A1)
1410 FORMAT(1A3)
1420 FORMAT(3A5)
1430 FORMAT(7A5)
1440 FORMAT(1A2)
1450 FORMAT(2A5)
1500 FORMAT(/, ' @',s)
1505 FORMAT(/, ' :',s)

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AD-A163 675

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170



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```
1510 FORMAT(//, ' INPUT FILE:',*)
1515 FORMAT(//, ' 1:',*)
1520 FORMAT(//, ' 8:',*)
1525 FORMAT(//, ' 8=:',*)
1530 FORMAT(//, ' 9=:',*)
1535 FORMAT(//, ' 9:',*)
1540 FORMAT(//, ' OUTPUT FILE:',*)
1545 FORMAT(//, ' 3:',*)
1550 FORMAT(//, ' 1:3TYPE ',*)
1600 FORMAT(////)
      END
```

C  
C

```

C
C
SUBROUTINE AFTP(DUM)
C
C *****FTP SUBROUTINE*****
C * THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE "FTP" PROTOCOL *
C *****
C
C DIMENSION INPUT(1),DEM1(1),DEM3(3),DEM4(4)
C
C ***** INTRODUCTION TO FTP
C
C TYPE 1600
C TYPE 1000
C TYPE 1300
C READ(05,1400,ERR=10) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C ***** FTP COMMANDS
C
10 TYPE 1010
C TYPE 1300
C READ(05,1400,ERR=25) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C ***** DEMO - ENTRY INTO FTP
C
25 NUM=0
30 TYPE 1040
32 READ(05,1410,ERR=30) DEM1
C TYPE 1600
C IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
C IF(DEM1(1).EQ.'FTP'.OR.DEM1(1).EQ.'ftp')GO TO 50
C NUM=NUM+1
C GO TO (35,40,45) NUM
35 TYPE 1340
C TYPE 1500
C GO TO 32
40 TYPE 1350
C TYPE 1500
C GO TO 32
45 TYPE 1045
C TYPE 1360
C READ(05,1400,ERR=45) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 25
C
C ***** DEMO - CONNECTING TO A FOREIGN HOST
C
50 NUM=0
55 TYPE 1050
57 READ(05,1420,ERR=55) DEM3

```

```

TYPE 1600
IF(DEN3(1).EQ.'Q'.OR.DEN3(1).EQ.'q')GO TO 520
IF(DEN3(1).EQ.'CONNE'.AND.DEN3(2).EQ.'CT IS'.AND.DEN3(3).EQ.'IE'.O
1R.DEN3(1).EQ.'conne'.AND.DEN3(2).EQ.'ct is'.AND.DEN3(3).EQ.'ie')GO
2 TO 75
NUM=NUM+1
GO TO (60,65,70) NUM
60 TYPE 1340
TYPE 1505
GO TO 57
65 TYPE 1350
TYPE 1505
GO TO 57
70 TYPE 1055
TYPE 1360
READ(05,1400,ERR=70) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 50
C
C ***** DEMO - LOGGING INTO AN ACCOUNT ON A FOREIGN HOST
C
75 NUM=0
80 TYPE 1060
82 READ(05,1420,ERR=80) DEM3
TYPE 1600
IF(DEN3(1).EQ.'Q'.OR.DEN3(1).EQ.'q')GO TO 520
IF(DEN3(1).EQ.'LOG S'.AND.DEN3(2).EQ.'REGNI'.AND.DEN3(3).EQ.'F 666
1'.OR.DEN3(1).EQ.'log s'.AND.DEN3(2).EQ.'regni'.AND.DEN3(3).EQ.'f 6
266'.OR.DEN3(1).EQ.'LOGIN'.AND.DEN3(2).EQ.'SREG'.AND.DEN3(3).EQ.'N
3IF 6'.OR.DEN3(1).EQ.'login'.AND.DEN3(2).EQ.'sreg'.AND.DEN3(3).EQ.
4'nif 6')GO TO 100
NUM=NUM+1
GO TO (85,90,95) NUM
85 TYPE 1340
TYPE 1510
GO TO 82
90 TYPE 1350
TYPE 1510
GO TO 82
95 TYPE 1065
TYPE 1360
READ(05,1400,ERR=95) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 75
C
C ***** DEMO - SENDING A FILE
C
100 NUM=0
105 TYPE 1070
107 READ(05,1470,ERR=105) DEM4
TYPE 1600
IF(DEN4(1).EQ.'Q'.OR.DEN4(1).EQ.'q')GO TO 520
IF(DEN4(1).EQ.'SEND '.AND.DEN4(2).EQ.'HOMEW'.AND.DEN4(3).EQ.'ORK.E

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1'.AND.DEM4(4).EQ.'XE'.OR.DEM4(1).EQ.'send '.AND.DEM4(2).EQ.'homew'
2'.AND.DEM4(3).EQ.'ork.e'.AND.DEM4(4).EQ.'xe')GO TO 125
NUM=NUM+1
GO TO (110,115,120) NUM
110 TYPE 1340
    TYPE 1510
    GO TO 107
115 TYPE 1350
    TYPE 1510
    GO TO 107
120 TYPE 1075
    TYPE 1360
    READ(05,1400,ERR=120) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 100
C
C DEMO - RETRIEVING A FILE WITH FTP
C
125 NUM=0
130 TYPE 1080
132 READ(05,1470,ERR=130) DEM4
    TYPE 1600
    IF(DEM4(1).EQ.'Q'.OR.DEM4(1).EQ.'q')GO TO 520
    IF(DEM4(1).EQ.'GET W'.AND.DEM4(2).EQ.'TGGT.'.AND.DEM4(3).EQ.'1 TTG
1'.AND.DEM4(4).EQ.'G.1'.OR.DEM4(1).EQ.'get w'.AND.DEM4(2).EQ.'tggt.
2'.AND.DEM4(3).EQ.'1 ttg'.AND.DEM4(4).EQ.'g.1')GO TO 150
    NUM=NUM+1
    GO TO (135,140,145) NUM
135 TYPE 1340
    TYPE 1510
    GO TO 132
140 TYPE 1350
    TYPE 1510
    GO TO 132
145 TYPE 1085
    TYPE 1360
    READ(05,1400,ERR=145) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 125
C
C ***** DEMO - CLOSING A CONNECTION
C
150 NUM=0
155 TYPE 1090
157 READ(05,1410,ERR=155) DEM1
    TYPE 1600
    IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
    IF(DEM1(1).EQ.'BYE'.OR.DEM1(1).EQ.'bye')GO TO 175
    NUM=NUM+1
    GO TO (160,165,170) NUM
160 TYPE 1340
    TYPE 1510
    GO TO 157

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165  TYPE 1350
      TYPE 1510
      GO TO 157
170  TYPE 1095
      TYPE 1360
      READ(05,1400,ERR=170) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 150
C
C      **** DEMO - LEAVING FTP
C
175  NUM=0
180  TYPE 1100
182  READ(05,1460,ERR=180) DEM1
      TYPE 1600
      IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
      IF(DEM1(1).EQ.'QUIT'.OR.DEM1(1).EQ.'quit')GO TO 200
      NUM=NUM+1
      GO TO (185,190,195) NUM
185  TYPE 1340
      TYPE 1505
      GO TO 182
190  TYPE 1350
      TYPE 1505
      GO TO 182
195  TYPE 1105
      TYPE 1360
      READ(05,1400,ERR=195) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 175
200  NUM=0
205  TYPE 1110
C
C      SIGN-OFF ROUTINE
C
500  TYPE 1240
      TYPE 1370
      READ(05,1400,ERR=510) INPUT
510  RETURN
520  TYPE 1250
      TYPE 1370
      READ(05,1400,ERR=530) INPUT
530  RETURN
C
C      *****FORMATS FOR FTP SUBROUTINE*****
C
C      **** INTRODUCTION
C
1000 FORMAT('                FTP - FILE TRANSFER PROTOCOL',/,
1' FTP is a program employed to transfer files around the net. Thi
2a can be done',/, ' from within the same host or between two differ
3ent hosts. It does necessitate',/, ' that you have access to a dir

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4 directory on each host (the directory which has the',/, ' material you
5 desire and the directory you wish the material to be transferred'
6',/, ' to',/,/,
7' The following prompts are unique to FTP:',/,/,
8' FTP>          FTP command level prompt.',/,/,
9' USC-ISIE.ARPA> Foreign host command level prompt.',/,/,

C
C      **** FTP COMMANDS
C
1010 FORMAT(' The following commands are peculiar to FTP.',/,/,
1' Command      Use',/,/,
2' FTP          Invokes the FTP protocol.',/,/,
3' CONNECT      Connects you from the local host (the one you logged
4 into) to the',/,/,
5'              foreign host (the one you are trying to get to).',/,/,
6' SEND         Sends a file from your local account to the remote a
7ccount.',/,/,
8' GET          Retrieves a file from the remote account to your loc
9al account.',/,/,
*' BYE          Disconnects you from the foreign host.',/,/,
1' DISCONNECT   Same as BYE',/,/,
2' QUIT         Leaves FTP',/,/,
3' EXIT         Same as QUIT',/,/,

C
C      DEMO - ENTERING FTP
C
1040 FORMAT(' NOTE: YOU MAY QUIT THE FOLLOWING DEMONSTRATION AT ANY TI
1ME, SIMPLY BY',/,/, ' TYPING A "Q" FOLLOWED BY A CARRIAGE RETURN, IN
2REPLY TO ANY OF THE PROMPTS.',/,/,/,
3' Here we go. To begin with, we need to get from the Executive Le
4vel to the FTP',/,/, ' Command Level. We do this by entering "FTP" a
5fter the "@" prompt. Go ahead.',/,/, ' @',s)
1045 FORMAT(' What you should have typed, was: FTP<CR>',/,/,)

C
C      **** DEMO - CONNECTING TO A FOREIGN HOST
C
1050 FORMAT(' USC-ISI.ARPA FTP user process 6(405)-4',/,/, ' FTP>',/,/,
1' Very good. Now we are at the FTP Command Level prompt. At this
2 point, we',/,/, ' want to connect to the desired foreign host. Let'
3's use ISIE.',/,/,/,
4' FTP>',s)
1055 FORMAT(' What you should have typed, was: CONNECT ISIE<CR>',/,/,)

C
C      **** DEMO - LOGIN AT FOREIGN HOST
C
1060 FORMAT(' Connection opened (Assuming TYPE L 36, MODE 3, STRU P)',/,/
1', < USC-ISIE.ARPA FTP Server Process 52(27)-7 at (today's date &
2 time)',/,/,/,
3' USC-ISIE.ARPA>',/,/,
4' Our connection is now open and we are ready to log into an accou
5nt on',/,/, ' this foreign host. Unlike the ISIA host, other hosts ma
6y require the',/,/, ' login to begin with either LOGIN or LOG. Let'
7s use the SREGNIF account',/,/, ' which has a password of 666 (the nu
8mber of the beast).',/,/,
9' USC-ISIE.ARPA>',s)

```



```
1370 FORMAT(' ENTER ANY KEY TO RETURN TO THE MAIN MENU',*)
1400 FORMAT(1A1)
1410 FORMAT(1A3)
1420 FORMAT(3A5)
1460 FORMAT(1A5)
1470 FORMAT(4A5)
1500 FORMAT(//,' @',*)
1505 FORMAT(//,' FTP>',*)
1510 FORMAT(//,' USC-ISIE.ARPA>',*)
1500 FORMAT(////)
END
```

C  
C

```

C
C
SUBROUTINE ATN(DUM)
C
C *****TELNET (TN) SUBROUTINE*****
C * THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE "TN" PROGRAM *
C *****
C
DIMENSION INPUT(1),DEM1(1),DEM2(2)
C
C INTRODUCTION TO TN
C
TYPE 1600
TYPE 1000
TYPE 1300
READ(05,1400,ERR=10) INPUT
TYPE 1600
10 IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
TYPE 1010
READ(05,1400,ERR=25) INPUT
TYPE 1600
IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C **** DEMO - ENTRY INTO TN
C
25 NUM=0
30 TYPE 1040
32 READ(05,1430,ERR=30) DEM2
TYPE 1600
IF(DEM2(1).EQ.'Q'.OR.DEM2(1).EQ.'q')GO TO 520
IF(DEM2(1).EQ.'TN IS'.AND.DEM2(2).EQ.'IE'.OR.DEM2(1).EQ.'tn is'.AN
1D.DEM2(2).EQ.'ie')GO TO 50
NUM=NUM+1
GO TO (35,40,45) NUM
35 TYPE 1340
TYPE 1500
GO TO 32
40 TYPE 1350
TYPE 1500
GO TO 32
45 TYPE 1045
TYPE 1360
READ(05,1400,ERR=45) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 25
C
C **** DEMO - SHOW COMMAND
C
50 NUM=0
55 TYPE 1050
57 READ(05,1430,ERR=55) DEM2
TYPE 1600
IF(DEM2(1).EQ.'Q'.OR.DEM2(1).EQ.'q')GO TO 520
IF(DEM2(1).EQ.'SHOW '.AND.DEM2(2).EQ.'ME'.OR.DEM2(1).EQ.'show '.AN

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```

1D.DEM2(2).EQ.'ne')GO TO 75
  NUM=NUM+1
  GO TO (60,65,70) NUM
60  TYPE 1340
    TYPE 1500
    GO TO 57
65  TYPE 1350
    TYPE 1500
    GO TO 57
70  TYPE 1035
    TYPE 1360
    READ(05,1400,ERR=70) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 50
C
C  **** DEMO - LEAVING ">>" LEVEL OF TN
C
75  NUM=0
80  TYPE 1060
82  READ(05,1460,ERR=80) DEM1
    TYPE 1600
    IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 520
    IF(DEM1(1).EQ.'LOGO'.OR.DEM1(1).EQ.'logo')GO TO 100
    NUM=NUM+1
    GO TO (85,90,95) NUM
85  TYPE 1340
    TYPE 1500
    GO TO 82
90  TYPE 1350
    TYPE 1500
    GO TO 82
95  TYPE 1065
    TYPE 1360
    READ(05,1400,ERR=95) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 75
C
C  **** DEMO - LEAVING TN
C
100 NUM=0
C
C  **** SIGN-OFF ROUTINE
C
500 TYPE 1240
    TYPE 1370
    READ(05,1400,ERR=510) INPUT
510 RETURN
520 TYPE 1250
    TYPE 1370
    READ(05,1400,ERR=530) INPUT
530 RETURN
C
C

```

```

C      *****FORMATS FOR TN SUBROUTINE*****
C
C      **** INTRODUCTION
C
1000  FORMAT('          TN (TELNET)',/,/,
1'  TN is a program or system which allows a user on one host to com
2municate',/,/,
3'  with another host.  It actually appears as though you logged int
4o the',/,/,
5'  foreign host directly from a "TAC" rather than through another h
6ost.  The',/,/,
7'  system also has the advantage of making your control characters
8do what you ',/,/,
8'  expect them to do, even if the control characters on the foreign
9host are ',/,/,
9'  different.',/,/,
0'  Using TN is actually quite simple.  All you need do is type "TN
1'  <host>" after',/,/,
1'  the Executive Level prompt followed by a carriage return.  If a
2'  pathway to the',/,/,
2'  foreign host is available and the host is up, you will connect t
3o the foreign',/,/,
3'  host ready to log into a directory.  When you are finished, simp
4ly log out of',/,/,
4'  the directory, then type "EXIT" after the "TN>" prompt.  You're
5back in your',/,/,
5'  own directory.',/,/)

C
C      **** TN COMMAND CHARACTERS
C
1010  FORMAT(' It should be noted, that since all control characters are
1meant to',/,/,
2'  behave on the foreign host as they would on the
2 local host, you cannot use',/,/,
3'  "C" to return to your own Execut
3ive Level.  There is a control character',/,/,
4'  provided for this purpose: ^C - control ^ followed by a C, but
5you should',/,/,
5'  really log out of the foreign host properly, if possible.',/,/,
6'  Would you like a brief demonstration of TN (Y or N)?',/,)

C
C      **** DEMO - ENTERING TN
C
1040  FORMAT(' OK.  First type TN and the name of the host you want to g
1o to.  We'll use',/,/,
2'  ISIE for this demonstration.',/,/,
2'  @',/,)
1045  FORMAT(' What you should have typed, was: TN ISIE<CR>',/,)

C
C      **** DEMO - LOGGING IN
C
1050  FORMAT(' Trying... Open',/,/,
1'  ISIE-SYSTEM-E, TOPS-20 Monitor 5(7430)',/,/,
2'  There are 37*10 jobs and the Load Average is 1.66',/,/,
3'  After login, type "HELP ?" followed by a carriage return for',/,/,
4'  a list of on-line help topics.',/,/,
4'  @',/,/,
5'  Looks familiar eh?  Now we can log into a directory on this hos
6t.  Use',/,/,
6'  the directory "SHOW" with the password "ME".  Did you realize th

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      *at you need',/,
      8' not use the command "LOG" or "LOGIN" to log on to an account? A
      911 that is',/,
      *' really required is the account name and the password. Try it he
      1re.',/,,' @',s)
1055  FORMAT(' What you should have typed, was: SHOW ME<CR>',/)
C
C      **** DEMO - SHOW COMMAND
C
1060  FORMAT(' Job 51 ON tty234 (date and time)',/,
      1' Previous LOGIN: (date and time)',/,
      2' PS: <SHOW>',/,
      3' 37 Pages assigned',/,
      4' 200 Working pages, 200 Permanent pages allowed',/,
      5' 15638 Pages free on PS:, 25354 pages used.',/,
      6' No new mail exists',/,
      7' With clothes new are the best, with friends the old are best.',/,
      8' End of LOGIN.CMD.1',/,,' @',/,
      9' Very good. Well I promised this would be brief; brief it will b
      *e. While',/, you are on the foreign host, everything works just
      1as it would on your own',/, host. OK. Let's go home. First we
      2 log out.',/,,' @',s)
1065  FORMAT(' What you should have typed, was: LOGO<CR>',/)
C
C      **** DEMO - LEAVING THE ">>" LEVEL OF TN
C
1240  FORMAT(' @',/,,' Welcome home. Note: If when you had entered TN
      *initially, you had entered',/,
      1' "TN <CR>" you would have gotten the TN> prompt. This is fine. J
      *ust give the',/,
      2' host name at this point. Upon logout you will be left at the TN>
      * prompt.',/,
      3' Another EXIT here and you are back home.',/,
      4' This concludes the TN portion of this tutorial. Just remember t
      *he ^C',/,
      5' control character if you get stranded while in TN.',/)
1250  FORMAT(' Sorry to see you quit early. Good bye.',/)
1300  FORMAT(' WOULD YOU LIKE TO CONTINUE (Y or N)?',s)
1340  FORMAT(' What a severe case of fumble fingers you have.',/)
1350  FORMAT(' You still don't have it right.',/)
1360  FORMAT(' CARE TO TRY AGAIN (Y or N)?',s)
1370  FORMAT(' ENTER ANY KEY TO CONTINUE',s)
1400  FORMAT(1A1)
1430  FORMAT(2A5)
1460  FORMAT(1A4)
1500  FORMAT(///,' @',s)
1505  FORMAT(///,' TN>',s)
1600  FORMAT(////)
      END
C
C

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```

C
C
SUBROUTINE APhoto(DUM)
C
C *****PHOTO SUBROUTINE*****
C = THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE "PHOTO" PROGRAM =
C *****
C
DIMENSION INPUT(1)
C
C ***** INTRODUCTION TO PHOTO
C
TYPE 1600
TYPE 1000
TYPE 1300
READ(05,1400,ERR=10) INPUT
TYPE 1600
IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 530
C
C ***** VIEWING / CHANGING / BEEPS
C
10 TYPE 1010
C
C ***** SIGN-OFF ROUTINE
C
500 TYPE 1240
TYPE 1370
READ(05,1400,ERR=510) INPUT
510 RETURN
520 TYPE 1250
TYPE 1370
READ(05,1400,ERR=530) INPUT
530 RETURN
C
C *****FORMATS FOR PHOTO SUBROUTINE*****
C
C ***** INTRODUCTION
C
1000 FORMAT(' PHOTO',/,
1' PHOTO is a program which allows you to record, or save, portions
2 of a',/,
3' computer session. It is invoked by typing "PHOTO" <CR> at the "
40" or',/,
5' Executive Level prompt. You will then be asked to supply a file
6 name',/,
7' to which the PHOTO session is to be recorded. PHOTO will record
8 what',/,
9' you type, as well as the responses back from the computer. While
you are in PHOTO, everything will work as normal. The control characters',/,
3' still remain as before and you still get the same prompts. What
4 this',/,
5' means is, you cannot use ^C to exit from PHOTO. The normal mea

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6ns of',/,
7' exiting PHOTO is to type "POP" followed by a <CR> at the "E" pro
8apt.',/,
9' There is one control character peculiar to PHOTO; ^Y (control Y
*). It',/,
1' is used to suspend the PHOTO session. When you are ready to con
2tinue',/,
3' recording, input another ^Y.',/,
4' One additional note. You must first POP out of PHOTO before you
5 can',/,
6' log out.',/))

C
C      **** BEEPS ETC
C
1010 FORMAT(' If you check your directory after POPing out of PHOTO, yo
1u will see the new',/,
2' file. You can use the TYPE command or enter XED to view it. XE
3D will also',/,
4' allow you to edit it.',/,
5' While in PHOTO the system beeps at you (every 30 seconds by defa
5ult). If you',/,
6' desire to change the frequency of the beeps or eliminate them en
7tirely, you',/,
8' use "/INTERVAL:(frequency in seconds)" following PHOTO:',/,
9'      @PHOTO/INTERVAL:0      - Removes the beeps',/,
*'      @PHOTO/INTERVAL:60    - Gives you beeps once a minute',/))

C
C      SIGN-OFF ROUTINE
C
1240 FORMAT(' This concludes the PHOTO section of this tutorial',/)
1250 FORMAT(' Sorry you have to leave so soon. Hurry back.',/)
1300 FORMAT(' ENTER A "Q" TO QUIT, ANY OTHER KEY TO CONTINUE. ',s)
1370 FORMAT('      ENTER ANY KEY TO RETURN TO THE MAIN MENU: ',s)
1400 FORMAT(1A1)
1600 FORMAT(////)
      END

C
C

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```

C
C
SUBROUTINE ARMND(DUM)
C
C *****REMIND SUBROUTINE*****
C  * THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE REMIND MESSAGE *
C  * TICKLER SYSTEM. *
C *****
C
C DIMENSION INPUT(1),DEM1(2),DEM2(1),DEM3(2)
C
C **** INTRODUCTION TO REMIND
C
C TYPE 1600
C TYPE 1000
C
C **** QUERY TO SEE IF USER WOULD LIKE TO CONTINUE
C
C TYPE 1300
C READ(05,1400,ERR=10) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 300
C
C **** DEMONSTRATION OF ENTERING REMIND PROGRAM
C
C NUM=0
C TYPE 1010
C READ(05,1410,ERR=30) DEM1
C TYPE 1600
C IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 300
C IF(DEM1(1).EQ.'REMIN'.AND.DEM1(2).EQ.'D'.OR.DEM1(1).EQ.'remin'.AN
1D.DEM1(2).EQ.'d')GO TO 50
C NUM=NUM+1
C GO TO (35,40,45) NUM
35 TYPE 1340
C GO TO 30
40 TYPE 1350
C GO TO 30
45 TYPE 1020
C TYPE 1360
C READ(05,1400,ERR=45) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
C IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 10
C
C **** DEMONSTRATION OF REMIND OPTIONS
C
C NUM=0
C TYPE 1030
C READ(05,1400,ERR=65) DEM2
C TYPE 1600
C IF(DEM2(1).EQ.'Q'.OR.DEM2(1).EQ.'q')GO TO 300
C IF(DEM2(1).EQ.'?')GO TO 80
65 TYPE 1040
C GO TO 60

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70  NUM=0
80  TYPE 1050
    TYPE 1055
    TYPE 1370
    READ(05,1400,ERR=90) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
C
C  **** DEMONSTRATION OF CREATING A REMIND MESSAGE
C
90  TYPE 1060
    READ(05,1410,ERR=90) DEM3
    TYPE 1600
    IF(DEM3(1).EQ.'Q'.OR.DEM3(1).EQ.'q')GO TO 300
    IF(DEM3(1).EQ.'CREAT'.AND.DEM3(2).EQ.'E'.OR.DEM3(1).EQ.'creat'.AN
1D.DEM3(2).EQ.'e')GO TO 150
    NUM=NUM+1
    GO TO (110,115,120) NUM
110 TYPE 1350
    GO TO 90
115 TYPE 1340
    GO TO 90
120 TYPE 1065
    TYPE 1360
    READ(05,1400,ERR=120) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
    IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 90
C
C  **** DEMONSTRATE WRITING A MESSAGE
C
150 NUM=0
200 TYPE 1080
210 TYPE 1370
    READ(05,1400,ERR=220) INPUT
    TYPE 1600
    IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
220 TYPE 1090
C
C  SIGN-OFF ROUTINE
C
240 TYPE 1100
    TYPE 1380
    READ(05,1400,ERR=260) INPUT
260 RETURN
300 TYPE 1200
320 TYPE 1380
    READ(05,1400,ERR=340) INPUT
340 RETURN
C
C  **** EXPLANATION OF REMIND
C
1000 FORMAT(20X,'REMIND',/,
1' REMIND is a program which allows you to create reminders for yo
'urself (or',/,

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2' others) which will be sent by the system at a specified time.
•You may',/,
3' schedule a reminder to be sent only once, or as frequently as
•as you like.',/,
4' You may also select whether the reminder will be mailed to your
• mailbox, or',/,
5' displayed on your terminal screen, or both.',/))
1010 FORMAT(' To use the REMIND program, type "REMIND <CR>" at the E
•xecutive Level prompt.',/,
1' Go ahead and try it (Remember, you can always quit by entering a
• "Q" at any',/,
2' prompt.):',/, ' Q',S)
1020 FORMAT(' What you should have typed was: REMIND <CR>',/))
1030 FORMAT(' After you have entered "REMIND <CR>" the following will
appear on your screen:',/),
2' REMIND VERSION 1.0(2)-3',/,
3' MONDAY, NOVEMBER 25, 1985 1:42AM',/,
4' REMIND>',/),
5' Typing a question mark (?) at any point in the remind program will
•display',/,
6' various available options. Try it yourself: ',/),
7' REMIND>',S)
1040 FORMAT(' What you should have typed was a question mark.',/), 'Try
again, please: ',/), ' REMIND>',S)
1050 FORMAT(' CREATE',/,
1' DAYTIME',/,
2' DELETE',/,
3' EXIT',/,
4' HEADERS',/,
5' HELP',/,
6' MODIFY',/,
7' QUIT',/,
8' SURVEY',/,
9' TYPE',/,
• UNDELETE',/))
1055 FORMAT(' The above list comprises the options available to you in
•REMIND. Most of them',/,
1' are self explanatory, however, it is helpful to know that DAYTIM
•E will tell you',/,
2' the current exact month, date and time, while SURVEY lists all R
•EMIND messages',/,
3' you have sent recently. Use the HELP command to find out about t
•he other',/,
4' commands if you are uncertain of their meanings.',/))
1060 FORMAT(' Let's try CREATEing a REMIND message. Type CREATE <CR> a
lfter',/, ' the REMIND> prompt.',/), ' REMIND>',S)
1065 FORMAT(' What you should have typed was: CREATE <CR> ',/))
1080 FORMAT(' The REMIND message format has a number of fields for you
•to enter the',/,
1' appropriate information requested. It is, again, fairly self e
•xplanatory',/,
2' so I am only going to show you an example. Of course, you can,
•as always.',/,
3' type a question mark if you get stuck. This is what a completed
• REMIND',/,

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4' message will look like:',//,
6' REMIND>CREATE',//,
7' First reminder at: 1234',//,
8' First reminder will be sent Monday, November 25, 1985 12:34PM',//,
9' Frequency of reminders: ONCE',//,
*' Notify mode: MAIL',//,
1' To: JONESDTW',//,
2' Subject: MEETING AT 1400 TOMORROW',//,
3' Mag:',//,
4' *** HEY, DAN!!',//,
5' I FORGET TO TELL YOU WE HAVE A MEETING ON THE JCS CHANGES',//,
6' PROPOSAL TOMORROW AFTERNOON. BE PREPARED TO SUPPORT YOUR VIEWS!',//,
7',//, 'JIN***',//, '2',//,
8' Notice you end the REMIND message with a ^Z.',//,
9' A word of advice: When prompted for mode of notification, you have three',//,
*' options: SEND, MAIL or BOTH. SEND will result in a receipt only
*' if the',//,
1' recipient is logged on to the host when the REMIND is sent (it is
*' sent directly',//,
2' to his screen at send time). MAIL causes the REMIND to be sent
*' only to the',//,
3' recipient's mail box. BOTH will result in both SEND and MAIL.',//,
4' That's all there is to it! The message is automatically queued
*' then',//,
5' forwarded at the time indicated.',//)
1090 FORMAT(' The next time JONESDTW (Dan) logs onto the host after 12:
134PM',//, ' on 25 November 1985, he will be told he has mail from the
2' REMIND',//, ' Daemon in his MSG file. By going into MSG, finding out
3' the number of',//, ' the message, and giving the "TYPE (number) <
4CR>" command, the REMIND ',//, ' message will be printed out.',//)
1100 FORMAT(' This concludes the REMIND portion of this tutorial.',//)
1200 FORMAT(' Sorry to see you quit so soon. Goodbye.',//)
1300 FORMAT(' Would you like to continue (Y or N)? ',S)
1340 FORMAT(' No. Try again, please.',//)
1350 FORMAT(' Oops! I'll pretend I didn't see that!!',//)
1360 FORMAT(' Do you want another chance (Y or N)? ',S)
1370 FORMAT(' Enter a "Q" to quit, any other key to continue: ',S)
1380 FORMAT(' Enter any key to return to main menu: ',S)
1400 FORMAT(1A1)
1410 FORMAT(2A5)
1600 FORMAT(////)
END

```

C  
C

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C
C
SUBROUTINE AFNGR(DUM)
C
C *****FINGER SUBROUTINE*****
C * THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE FINGER LOCATE *
C * AND IDENTIFY USER SYSTEM *
C *****
C
C DIMENSION INPUT(1),DEM1(2),DEM2(3)
C
C **** INTRODUCTION TO FINGER
C
C TYPE 1600
C TYPE 1000
C
C **** QUERY TO SEE IF USER WOULD LIKE TO CONTINUE
C
C TYPE 1370
C READ(05,1400,ERR=10) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
C
C **** DEMONSTRATION OF ENTERING FINGER PROGRAM
C
C NUM=0
10 TYPE 1010
30 READ(05,1410,ERR=30) DEM1
C TYPE 1600
C IF(DEM1(1).EQ.'Q'.OR.DEM1(1).EQ.'q')GO TO 300
C IF(DEM1(1).EQ.'FINGE'.AND.DEM1(2).EQ.'R'.OR.DEM1(1).EQ.'finge'.AN
1D.DEM1(2).EQ.'r')GO TO 70
C NUM=NUM+1
C GO TO (35,40,45) NUM
35 TYPE 1340
C GO TO 30
40 TYPE 1350
C GO TO 30
45 TYPE 1020
C TYPE 1360
C READ(05,1400,ERR=45) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
C IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 10
C
C **** DEMONSTRATION OF FINGERING YOUR HOST
C
C NUM=0
70 TYPE 1050
80 TYPE 1370
C READ(05,1400,ERR=85) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
85 TYPE 1055
C TYPE 1370

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      READ(05,1400,ERR=88) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
88    TYPE 1058
      TYPE 1370
      READ(05,1400,ERR=90) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
C
C    **** DEMONSTRATION OF CREATING A FINGER.PLAN
C
89    NUM=0
90    TYPE 1060
      READ(05,1415,ERR=90) DEM2
      TYPE 1600
      IF(DEM2(1).EQ.'Q'.OR.DEM2(1).EQ.'q')GO TO 300
      IF(DEM2(1).EQ.'FINGE'.AND.DEM2(2).EQ.'R JON'.AND.DEM2(3).EQ.'ESDTW
1' .OR.DEM2(1).EQ.'finge'.AND.DEM2(2).EQ.'r jon'.AND. DEM2(3).EQ.'es
2dtw')GO TO 150
      NUM=NUM+1
      GO TO (110,115,120) NUM
110   TYPE 1350
      GO TO 90
115   TYPE 1340
      GO TO 90
120   TYPE 1065
      TYPE 1360
      READ(05,1400,ERR=120) INPUT
      TYPE 1600
      IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 300
      IF(INPUT(1).EQ.'Y'.OR.INPUT(1).EQ.'y')GO TO 89
C
C    **** DEMONSTRATION OF WHAT A FINGER.PLAN LOOKS LIKE
C
150   NUM=0
200   TYPE 1080
C
C    **** SIGN-OFF ROUTINE
C
240   TYPE 1100
      TYPE 1380
      READ(05,1400,ERR=260) INPUT
260   RETURN
300   TYPE 1200
320   TYPE 1380
      READ(05,1400,ERR=340) INPUT
340   RETURN
C
C    ***** FORMATS FOR FINGER SUBROUTINE *****
C
C    **** EXPLANATION OF FINGER
C
1000  FORMAT(20X,'FINGER',/,/,
1' FINGER is a program to help locate and identify users on a syst
*em. It is',/,

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2' called from the Executive Level by the FINGER command. Its main
*features are',/,
3' personal name and line location output. FINGER will also allow y
*ou to leave a',/,
4' message called a "plan" in a file called FINGER.PLAN to be print
*ed out if',/,
5' somebody FINGERS you and you are not logged on. This file is a
*free-form text',/,
6' file and the file protection should be at least 775252 to allow
*other users to',/,
7' read it.',/))

1010 FORMAT(' To FINGER users on a system, type "FINGER <CR>" at the E
*xecutive Level prompt.',/,
1' Go ahead and try it (Remember, you can always quit by entering a
* "Q" at any',/,
2' prompt.):',/, ' @',#)

1020 FORMAT(' What you should have typed was: FINGER <CR>',/))
1050 FORMAT(' User      Personal name      Job Subsys Idle TTY Co
insole location',/, ' CLYNN      Charles Lynn      15 PICKLE
2 344 Batch job',/, ' HERBERTMK M.K. Herbert      37 TYPE
3 .212 NPS-TAC.ARPA#27',/, ' SMTP      System Utility      8 S
4MTPSD      .355 Job O, OPERATOR, SYSJOB',/, ' WESTTA      T.A. WEST
5 33 XED      211 NPS-TAC.ARPA#13',/))

1055 FORMAT(' Other calling sequences for FINGER.PLAN include:',/),
1' @ FINGER / <switches> <username>',/,
2' @ FINGER <USERNAME> / <SWITCHES>',/,
3' <USERNAME>      May be blank to mean all users, or a local username
4e, or',/,      a foreign username of the form <username>@<host>
5>',/,      If the username is not specified, a terse summary
6 of',/,      all users is output ordered alphabetically by u
7sername.',/,      If a username is specified the output is a
8uch',/,      more detailed, showing the normal one-line job a
9tatus',/,      the last logout time and line if the user is n
*ot log-',/,      ged in, the last time the mail was read, and
1whether',/,      there are any pending messages, and the user'
2'a',/,      current FINGER.PLAN.',/))

1058 FORMAT(' <SWITCHES>      If no SWITCHES are specified the defau
1lta',/,      are: /DETACHED /NO-OPERATOR. Specified SWITCHES
2are',/,      /DETACHED      Display detached jobs.',/,
3' /DIAL-IN      Display dial-in jobs only.',/,
4' /HELP      Show this message.',/,
5' /NO-DETACHED      Suppress display of detached jobs.',/,
6' /NO-OPERATOR      Suppress display of operator jobs.',/,
7' /OPERATOR      Display operator jobs.',/,
8' /TERSE      Don't output plan and mail information just the
9 one',/,      line job status.',/,
*' /VERBOSE      Output plan and mail info and whatever info the
1person',/,      has in the INQUIR database, except for t
2he',/,      account. Ignore if no username given.',/,
3' /WHOIS      Useful for remote users. Site dependent info is
4dis-',/,      played about the user. For any ISI site th
5at',/,      INQUIR data exists the following is displaye
6d: ',/,      personal name, network address, the home ad
7dress',/,      and phone, work address and phone, projec
8t.',/))

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C
C      **** MAKING YOUR OWN FINGER.PLAN
C
1060  FORMAT(' To make your own FINGER.PLAN, simply make up a file in XE
1D, set',/, ' file protection at 775252, and title it FINGER.PLAN. Y
2ou ',/, ' can update any time you wish, of course. Let''s see what
3FINGERing',/, ' an individual looks like. Type FINGER JONESDTW <CR>
4 after',/, ' the Executive Level prompt.',/, ' @', $)
1065  FORMAT(' What you should have typed was: FINGER JONESDTW <CR>',/)
1080  FORMAT(' JONES      DANIEL THOMAS W.      JONESDTW not logged in',
1/, ' Last logout Tue 26-Nov-85 14:01 from TTY233',/,
2' Netmail from WBA@MIT-XX.ARPA at Tue 26-Nov-85 17:31, last read'
3/, ' on Tue 26-Nov-85 12:58.',/,
4' Plan:',/,
5' This is my plan.. this is my dream... to hahaha.....',/,
6' Sorry I'm not here to talk to you!! Leave a MSG; I'll be in'
7/, ' touch nos skosh!!!',/,
8' To learn more about a person, type "FINGER <username>/VERBOSE.
'You will get',/,
9' the FINGER information as in the above example plus the informat
'ion from the',/,
' person's INQUIR file. (See INQUIRE portion of this tutorial).
',/)
1100  FORMAT(' This concludes the FINGER portion of this tutorial.',/)
1200  FORMAT(' Sorry to see you quit so soon. Goodbye.',/)
1300  FORMAT(' Would you like to continue (Y or N)? ', $)
1320  FORMAT(' Enter any key to continue: ', $)
1340  FORMAT(' Sigh. I guess it's just not your day.',/)
1350  FORMAT(' Aaack!!! Call the repairman! You've scrambled my innards
1!!!',/)
1360  FORMAT(' Do you want another chance (Y or N)? ', $)
1370  FORMAT(' Enter a "Q" to quit, any other key to continue: ', $)
1380  FORMAT(' Enter any key to return to main menu: ', $)
1400  FORMAT(1A1)
1410  FORMAT(2A5)
1415  FORMAT(3A5)
1600  FORMAT(////)
      END
C
C

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C
C
SUBROUTINE AINQR(DUM)

C *****INQUIR SUBROUTINE*****
C = THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE "INQUIR" PROGRAM =
C *****
C
C DIMENSION INPUT(1)
C
C ***** INTRODUCTION TO INQUIR
C
C TYPE 1600
C TYPE 1000
C TYPE 1030
C READ(05,1400,ERR=100) INPUT
C TYPE 1600
100 IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
C TYPE 1010
C TYPE 1015
C READ(05,1400,ERR=120) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 520
C
C ***** EXAMPLE OF COMPLETED DATA BASE & SHOW COMMAND
C
120 C TYPE 1020
C TYPE 1030
C READ(05,1400,ERR=130) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'Q'.OR.INPUT(1).EQ.'q')GO TO 520
130 C TYPE 1040
C
C ***** SIGN-OFF ROUTINE
C
500 C TYPE 1240
C TYPE 1370
C READ(05,1400,ERR=510)
510 C RETURN
520 C TYPE 1250
C TYPE 1370
C READ(05,1400,ERR=530)
530 C RETURN
C
C *****FORMATS FOR INQUIR SUBROUTINE*****
C
C ***** INTRODUCTION TO INQUIR
C
1000 C FORMAT(//,' INQUIR',//,
C 1' INQUIR allows you to enter information into a file which can the
C 2n be read',//,
C 3' by yourself or others using the "FINGER /VERBOSE <username>" com
C 4mand. It',//,
C 5' is entered by typing "INQUIR <CR>" after the "G" Executive Leve

```

```

61 prompt.',/,
7' The system will respond with the ">" prompt, following which you
8 type the',/,
9' command "MODIFY <username> <CR>", where user name is your account
  name.',/,
1' The system now will be at its entry level, and will either respo
2nd with a',/,
3' ">>" prompt (if data is already in the file), or with questions
4(if there',/,
5' is no information in the file).',/,
6' Please note that while you are answering these questions, or lat
7er making',/,
8' changes, the editing controls (DEL KEY, ^R, ^W etc.) may be used
9. The ^Z',/,
*' is used to complete the remarks section.',/)

C
1010 FORMAT(/,
1' When you finish with the questions you will be placed at the ">>"
2" prompt.',/,
3' The commands now available can be viewed by entering a "?",
4as usual.',/,
5' The more useful of these are:',/,
6' ALL Allows you to review/change the entire data ba
7se.',/,
8' <field name> Allows you to change a specific field.',/,
9' SHOW Shows you the entire data base as it would app
ear with',/,
1' the "FINGER /VERBOSE" <username> command.',/,
2' EXIT Exits to the ">" prompt from the ">>" prompt,
3or exits',/,
4' to the "@" prompt from the ">" prompt .',/,
5' Thus, once we are satisfied with the file, it takes two EXITS to
6 get back',/,
7' to the Executive Level.',/)

C
1015 FORMAT(' Would you like to see what a completed INQUIR file looks
like (Y or N)? ',S)

C
C **** EXAMPLE OF INQUIR FILE / SHOW COMMAND
C
1020 FORMAT(' @INQUIR',/,
1' > MODIFY HERKERTMK',/,
2' >> SHOW',/,
3' Directory name: PS:<HERKERTMK>',/,
4' Name: ',/,
5' Nick name: BOOTS',/,
6' Work address: C3 CURRICULUM, NPS MONTEREY, CA 93943-100
71',/,
8' Work phone: (408) 646-2772',/,
9' Home address: SMC 1001, NPS MONTEREY, CA 93943-1001',/,
*' Home phone: (408) 372-1665',/,
1' Network address: HERKERTMK',/,
2' Birthday: CLASSIFIED',/,
3' Supervisor: GARY POOCK (NET: POOCK@ISIA)',/,
4' Project: INTERACTIVE TUTORIAL ON THE DDN NETWORK',

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5/,
6' Relation:          Grad-Student',/,
7' Remarks:          God helps those which.....',/,
8' Account:          ',/,
9' Last logout:',/,
*' Last alteration:   HERKERTMK; 25-Nov-85 00:31:42',/,
1' >> EXIT',/,
2' > EXIT',/))

C
1030 FORMAT(' ENTER "Q" TO QUIT, ANY OTHER KEY TO CONTINUE: ',S)
C
C      **** REMARKS ABOUT EMPTY FIELDS
C
1040 FORMAT(' Notice in the above output, certain fields are blank:  AC
1COUNT, NAME and',/,
2' LAST LOGOUT.  These fields are completed by the system when some
3one FINGERS',/, ' the file with /VERBOSE.',/))

C
C      **** SIGN-OFF ROUTINE
C
1240 FORMAT(' This completes the tutorial section on INQUIR.',/))
1250 FORMAT(' SORRY YOU HAVE TO RUSH OFF',/))
1370 FORMAT(' ENTER ANY KEY TO RETURN TO THE MAIN MENU: ',S)
1400 FORMAT(1A1)
1600 FORMAT(////)
      END
C
C

```

```

C
C
SUBROUTINE AEMH(DUM)
C
C =====ELECTRONIC MAIL HOST SUBROUTINE=====
C = THIS SUBROUTINE EXPLAINS AND DEMONSTRATES THE ELECTRONIC =
C = MAIL HOST MESSAGE HANDLING SYSTEM. =
C =====
C
C DIMENSION INPUT(1)
C
C ***** INTRODUCTION TO EMH
C
C TYPE 1600
C TYPE 1000
C
C ***** QUERY TO SEE IF USER WOULD LIKE TO CONTINUE
C
C TYPE 1300
C READ(05,1400,ERR=10) INPUT
C TYPE 1600
C IF(INPUT(1).EQ.'N'.OR.INPUT(1).EQ.'n')GO TO 50
C
C ***** DEMONSTRATION OF USING EMH PROGRAM
C
C NUM=0
C10 TYPE 1010
C TYPE 1320
C READ(05,1400,ERR=35) INPUT
C TYPE 1600
C35 TYPE 1020
C TYPE 1320
C READ(05,1400,ERR=40) INPUT
C40 TYPE 1030
C TYPE 1320
C READ(05,1400,ERR=45) INPUT
C
C SIGN-OFF ROUTINE
C
C45 TYPE 1100
C TYPE 1380
C READ(05,1400,ERR=48) INPUT
C48 RETURN
C50 TYPE 1200
C60 TYPE 1380
C READ(05,1400,ERR=70) INPUT
C70 RETURN
C
C ***** FORMAT FOR EMH SUBROUTINE *****
C
C ***** EXPLANATION OF EMH
C
C1000 FORMAT(20X,'EMH',/,
1' ELECTRONIC MAIL HOST (EMH) is a special kind of host on the net.

```

```

* The only',,,
2' capability an EMH has is sending and receiving messages. You will
*1 be using',,,
3' TN in this tutorial; if you've forgotten that particular system
*, you should',,,
4' stop here and go back for a review.',,/)
1010 FORMAT(' To use EMH, obviously you will have to know someone who i
* s only on that system.',,,
1' worse yet, you will have to know the correct password(s) to get
* into that',,,
2' particular EMH location. For example, Hawaii has an EMH. In th
* is tutorial',,,
3' we will login using "NPSCLASS" with a first password of FALLDOWN
* and a second',,,
4' password of SPRINGUP. EMH passwords change frequently to prevent
* idle chitchat',,,
5' user abuse and large, inexplicable bills. Unless you have a good
* and valid',,,
6' reason to access an EMH, you will probably not be able to get in
*.',,/)
1020 FORMAT(' Here is a demonstration of accessing an EMH "Host" and a
* ending',,, a message:',,,
2' @TN HAWAII-EMH',,,
3' Trying... Open',,,
4' ;login: NPSCLASS',,,
5' PASSWORD: <falldown>',,,
6' BBNCC RELEASE 5.3.3. INSTALLED 4 SEP 85',,,
7' HAWAII ELECTRONIC MAIL HOST',,,
8' TERM = (TI) TTY',,,
9' ERASE SET TO BACKSPACE',,,
* WELCOME TO INFOMAIL -- VERSION 2.5.1 -- USED UNDER LICENSE FROM
1BBNCC',,,
2' USER NAME: NPSCLASS',,,
3' PASSWORD: <springup>',,,
4' INBOX NOW OPENED (NB: This is messages you are in receipt of)',
*,,,
5' INBOX.',,,
6' 1 FROM:POOCK @ US /SUBJECT: THESIS QUESTIONS?? / 29 NOV 85 18:29
* GMT',,, -->',,,)
1030 FORMAT(' You have a number of options in EMH: ',,, DESK, INBOX, O
1UTBOX, FILES, FORMS, TRASH, PROFILE, CURRENT, PREVIOUS, #, *,',,,
2 LAST, ALL.',,,
* Other options used to manipulate message formatting, etc are:',,
3, COMPOSE, COPY, CREATE, DESCRIBE, DISCARD, DISPLAY, EDIT,
4 PEN',,, EXAMPLE, EXIT, EXPORT, FILE, FORWARD, GET, IMPORT, K
5EEP, LOOKUP, MAIL',,, MAKE, MOVE, NEXT, OPEN, PRINT, QUIT, READ,
6 REMOVE, REPLY, RESTORE, SCAN',,, SET, SHOW, SYSTEM, TERMINAL.',
7,,,
8' A goodly number of these are self-explanatory, but if you find o
9ne',,, is a bit confusing, a question mark typed after the option
* will elicit',,, an explanation. Unfortunately, the ESC and CONTR
10L keys do not work',,, well, if at all, in EMH. Other than readi
2ng your INBOX, you will probably',,, find the COMPOSE option, use
3d to create a message, the most useful.',,,20X,'SPECIAL NOTE',,,
4' Since the control characters do not work in EMH, we cannot termi

```

```

-nate the text'./,
5' of a message with ^Z. Instead, enter a PERIOD "." on a line by
-itself followed',/,
6' by a carriage return.',//)
1100 FORMAT(' This concludes the EMH portion of this tutorial.',//)
1200 FORMAT(' Sorry to see you quit so soon. Goodbye.',//)
1300 FORMAT(' Would you like to continue (Y or N)? ',S)
1320 FORMAT(' Enter any key to continue: ',S)
1380 FORMAT(' Enter any key to return to main menu: ',S)
1400 FORMAT(1A1)
1600 FORMAT(////)
      END

```

C  
C



```
C
C
SUBROUTINE AEMACS(DUN)
TYPE 100
RETURN
100 FORMAT(////' THE EMACS PART OF THIS TUTORIAL HAS YET TO BE WRITTEN.
1',//)
END
C
C
```

```
C
C
SUBROUTINE AGRAPH(DUM)
TYPE 100
RETURN
100  FORMAT(' THE GRAPH PORTION OF THIS TUTORIAL HAS YET TO BE WRITTEN.
1',//)
END
C
C
```

```

C
C
SUBROUTINE BILBO(DUM)
C
C *****WHERE TO GO FROM HERE SUBROUTINE*****
C = THIS SUBROUTINE OUTPUTS ADDITIONAL SOURCES OF INFORMATION ON =
C = THE DDN NETWORK AND THE TOPS-20 OPERATING SYTEM =
C *****
C
C DIMENSION INPUT(1)
C TYPE 1600
C TYPE 1000
C TYPE 1200
10 READ(05,1400,ERR=10) INPUT
C TYPE 1005
C TYPE 1200
20 READ(05,1400,ERR=20) INPUT
C TYPE 1010
C TYPE 1240
C TYPE 1250
30 READ(05,1400,ERR=30) INPUT
C RETURN
C
C *****FORMATS FOR BIBLIOGRAPHY SUBROUTINE*****
C
1000 FORMAT(10X,'WHERE TO GO FROM HERE',//
1' The following materials serve as excellent sources of informatio
'n on the',//,
2' TOPS-20 operating systems and sub-systems, including HELP, ?, AC
3TION',//,
4' DOCUMENTATION, FTP, TN, FINGER, MM, HERMES, XED, EMACS, REMIND,
5PHOTO',//,
6' WHOIS, ARCHIVE AND SCRIBE.',//,
7' USER'S GUIDE TO TOPS-20 TOPS-20',//,
8' WAYNE TANNER CHLOE SOMMERS HOLG',//,
9' SEPT 1983 & APRIL 1984 AUGUST 1983',//,
* USC INFORMATION SCIENCE INSTITUTE USC INFORMATION SCIENCE
1 INSTITUTE',//,
2' 4676 ADMIRALTY WAY IBID',//,
3' MARINA DEL REY, CA 90291',//,
4' (213) 822-1511 EXT 289',//,
5' ACTION @ ISIE',//,
6' PROFESSOR GARY POOCK',//,
7' CODE 55PK',//,
8' NAVAL POSTGRADUATE SCHOOL',//,
9' MONTEREY, CA 93943',//,
* POOCK@USC-ISIA',//)
C
1005 FORMAT(' The following are informative sources on the creation of
1the Defense Data',//,
2' Network, where it's at today and where it's going:',//,
3' DDN NEW USER GUIDE (NIC 50001)',//,
4' MARCH 1985',//,

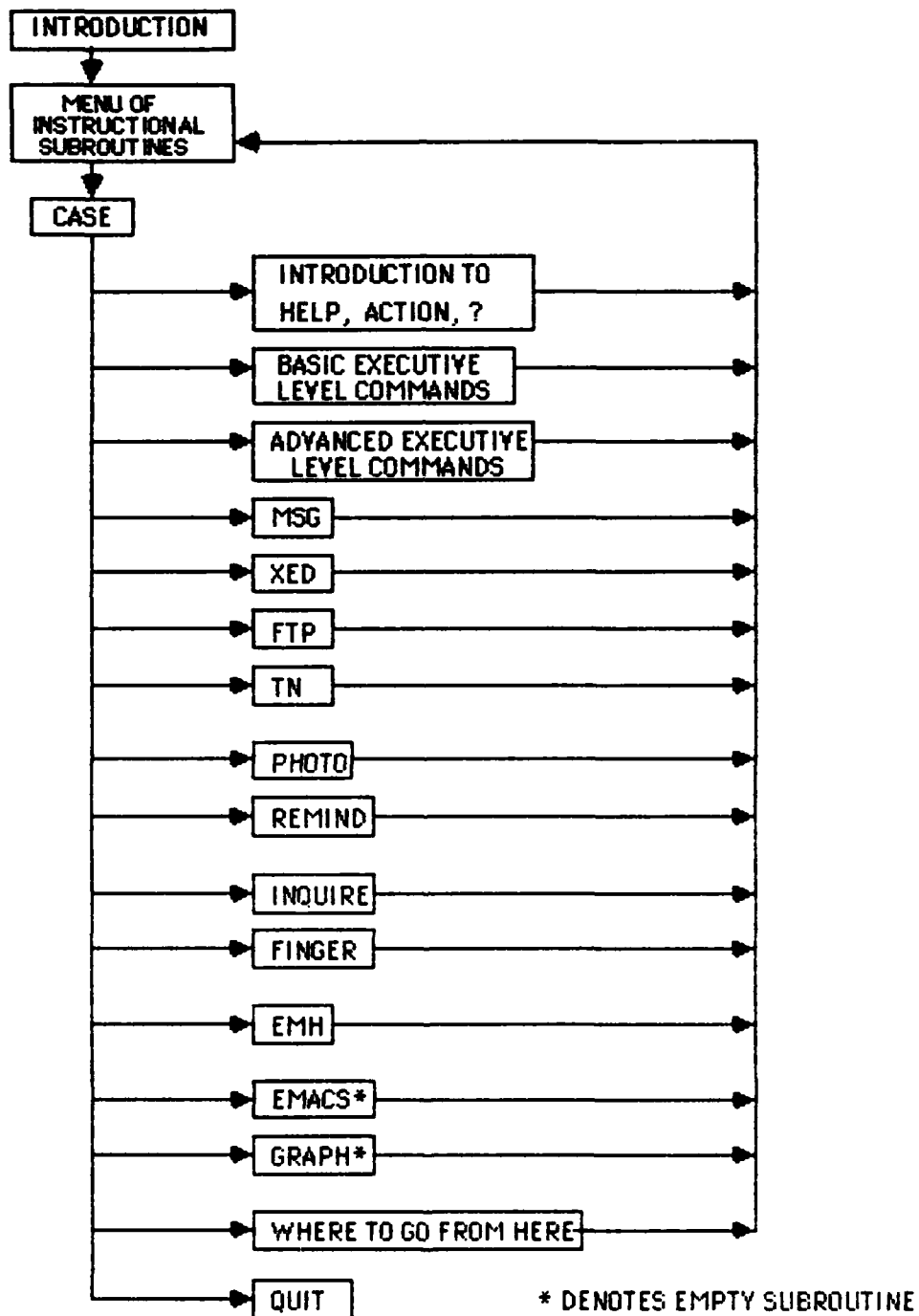
```

5' DDN NETWORK INFORMATION CENTER',,,  
 6' DDN PROGRAM MANAGEMENT OFFICE',,,  
 7' DEFENSE COMMUNICATION AGENCY',,,  
 8' WASHINGTON, D.C.',,,  
 9' (703) 285-5025',,,)

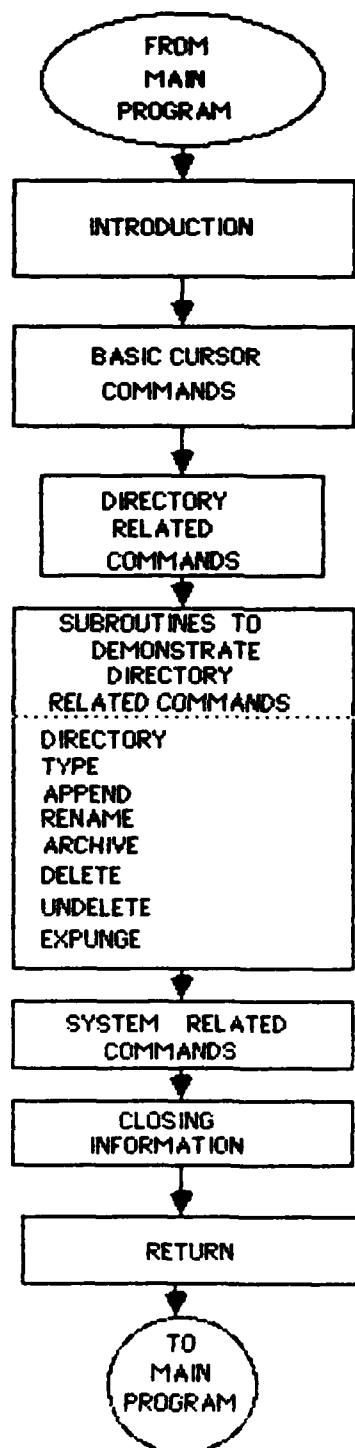
C

1010 FORMAT(' Useful addresses:',,,,  
 1' BOLT, BERANEK AND NEWMAN INC. COMPUTING ANALYSIS COR  
 2PORATION',,, 1400 WILSON BLVD., SUI  
 3' 50 MOULTON STREET ARLINGTON, VIRGINIA 2  
 4TE 1101',,,  
 5' CAMBRIDGE, MASSACHUSETTS 02238  
 62209',,,  
 7' DIGITAL EQUIPMENT CORPORATION DOCUMENT DISTRIBUTION'  
 8',,  
 9' PO BOX CS-2008 USC INFORMATION SCIENC  
 \*ES INSTITUTE',,, 4676 ADMIRALTY WAY, SU  
 1' NASHUA, NEW HAMPSHIRE 03061  
 2ITE 1100',,,  
 3' MARINA DEL RAY, CALIFO  
 4RNIA 90291',,,  
 5' MASSACHUSETTS INSTITUTE OF TECHNOLOGY ',,,  
 6' ARTIFICIAL INTELLIGENCE LABORATORY UNIOLOGIC, LTD',,,  
 7' ATTN: PUBLICATIONS 160 N. CRAIG',,,  
 8' 545 TECHNOLOGY SQUARE PITTSBURG. PENNSYLVANI  
 9A 15213',,,  
 \*' CAMBRIDGE, MASSACHUSETTS 02139',,,)  
 1200 FORMAT(' ENTER ANY KEY TO CONTINUE: ',,\*)  
 1240 FORMAT(' This concludes the bibliography section.',,,)  
 1250 FORMAT(' TYPE ANY KEY TO RETURN TO THE MAIN MENU: ',,\*)  
 1400 FORMAT(1A1)  
 1600 FORMAT(////)  
 END

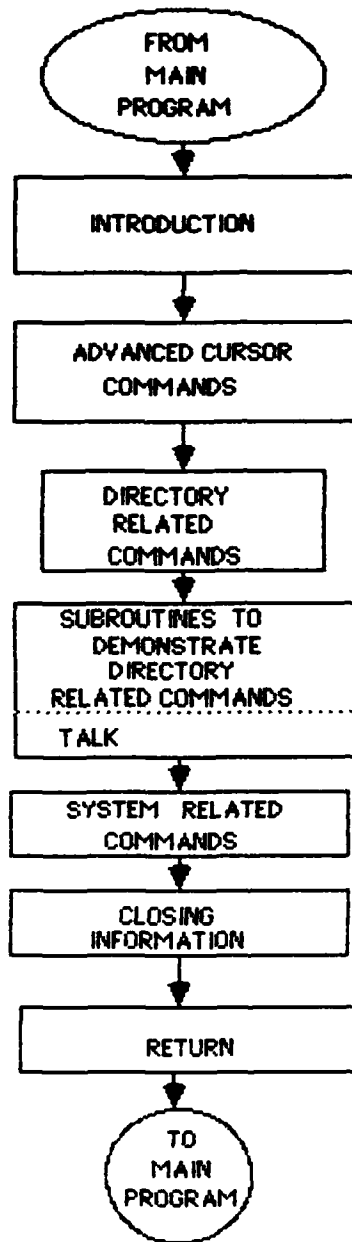
**This Flowchart Describes The Main Program  
Of The Interactive Tutorial For The DDN.**



**This Flowchart Describes The ELC1 Subroutine:**

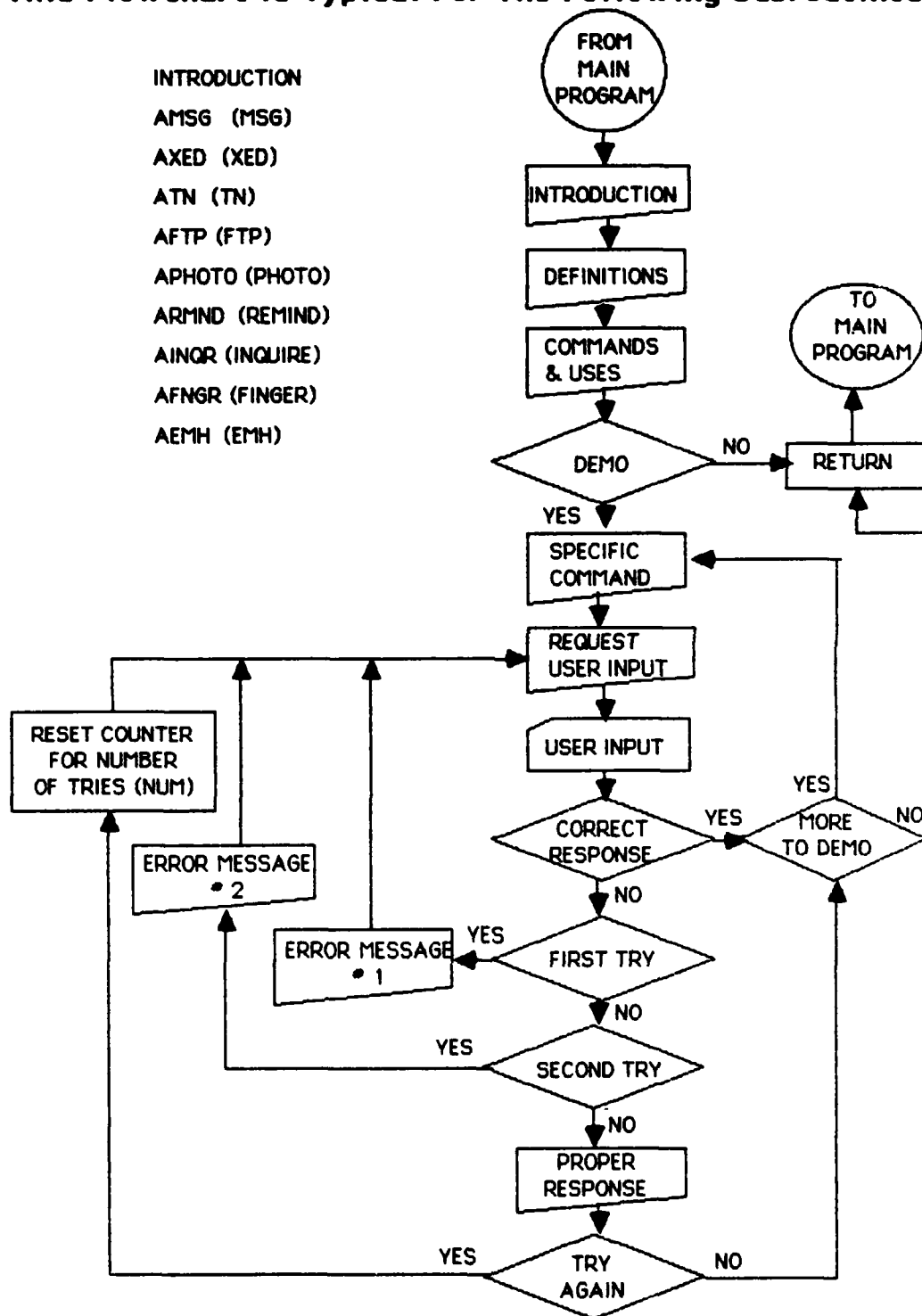


**This Flowchart Describes The ELC2 Subroutine:**



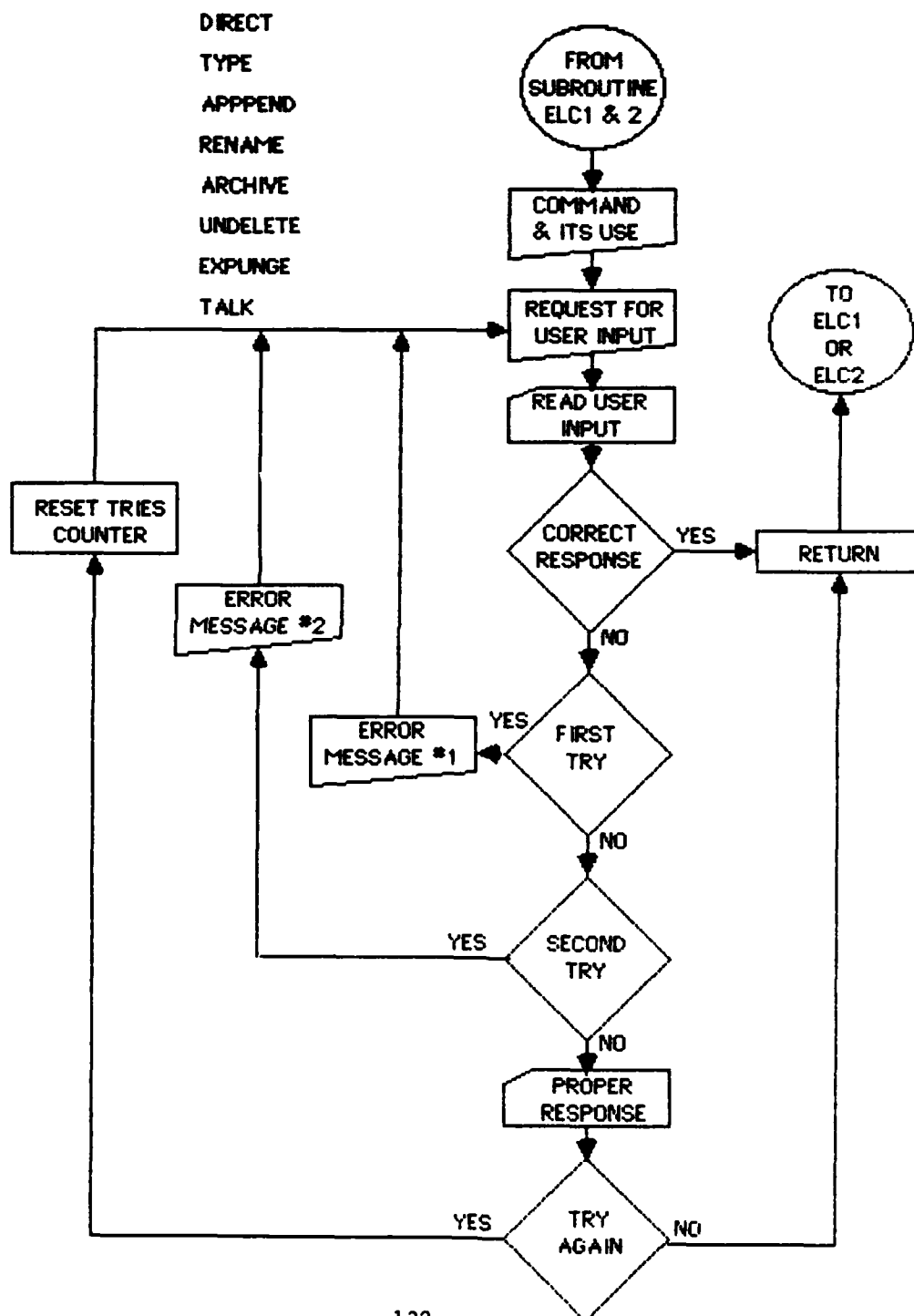
**This Flowchart Is Typical For The Following Subroutines:**

INTRODUCTION  
 AMSG (MSG)  
 AXED (XED)  
 ATN (TN)  
 AFTP (FTP)  
 APHOTO (PHOTO)  
 ARMND (REMIND)  
 AINQR (INQUIRE)  
 AFNGR (FINGER)  
 AEMH (EMH)

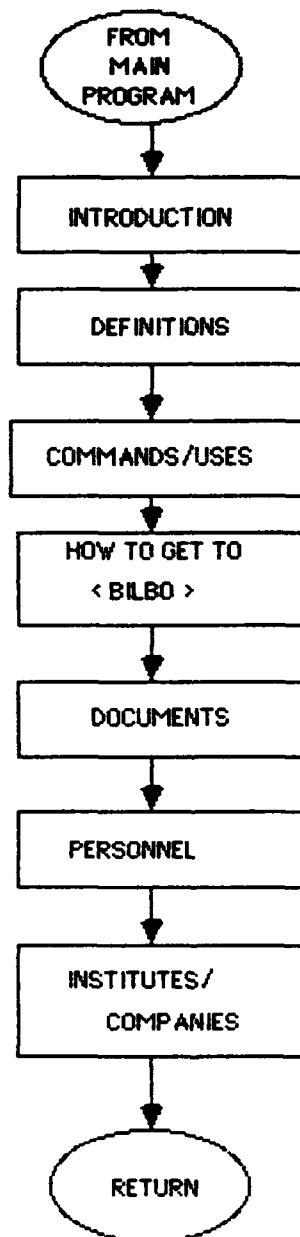




**This Flowchart Is Typical For The Following Subroutines:**



**This Flowchart Describes The Where To  
Go From Here Or BILBO Subroutine:**



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2

**END**

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